SEQUENCE LISTING

<110> MCCARTHY, Sean A
     FRASER, Christopher C
     SHARP, John D
     BARNES, Thomas S
     KIRST, Susan J
     MACKAY, Charles R
     MYERS, Paul S
     LEIBY, Kevin R
     WRIGHTON, Nicholas
     GOODEARL, Andrew
     HOLTZMAN, Douglas A

<120> NOVEL GENES ENCODING PROTEINS HAVING PROGNOSTIC,
     DIAGNOSTIC, PREVENTIVE, THERAPEUTIC, AND OTHER USES

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Glu Asp Val Ala Asp Val Leu Leu Lys Leu Pro Asn Pro Ser Thr Val
       50                  55                  60

Arg Phe Arg Ala Met Gln Arg Gly Asn Ser Pro Leu Leu Val Val Asn
   65                  70                  75                  80

Glu Asp Asn Gly Glu Ile Ser Ile Gly Ala Thr Ile Asp Arg Glu Gln
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Thr Leu Pro Thr Glu His Leu Gln Leu Phe His Ile Glu Val Glu Val
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Ser Ala Phe Asp Pro Asp Val Gly Glu Asn Ser Leu His Thr Tyr Ser
145   150   155   160

Leu Ser Ala Asn Asp Phe Phe Asn Ile Glu Val Arg Thr Arg Thr Asp
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Glu Leu Lys Ser Ser Tyr Glu Leu Gln Leu Thr Ala Ser Asp Met Gly
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Val Pro Gln Arg Ser Gly Ser Ser Ile Leu Lys Ile Ser Ile Ser Asp
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Ser Asn Asp Asn Ser Pro Ala Phe Glu Gln Gln Ser Tyr Ile Ile Gln
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Leu Leu Glu Asn Ser Pro Val Gly Thr Leu Leu Leu Asp Leu Asn Ala
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Thr Asp Pro Asp Glu Gly Ala Asn Gly Lys Ile Val Tyr Ser Phe Ser
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Ser His Val Ser Pro Lys Ile Met Glu Thr Phe Lys Ile Asp Ser Glu
    260   265   270

Lys Ser Tyr Glu Ile Asp Val Gln Ala Gln Asp Leu Gly Pro Asn Ser
    275   280   285

Ile Pro Ala His Cys Lys Ile Ile Ile Lys Val Val Asp Val Asn Asp
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Asn Lys Pro Glu Ile Asn Ile Asn Leu Met Ser Pro Gly Lys Glu Glu
305   310   315   320

Ile Ser Tyr Ile Phe Glu Gly Asp Pro Ile Asp Thr Phe Val Ala Leu
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Val Arg Val Gln Asp Lys Asp Ser Gly Leu Asn Gly Glu Ile Val Cys
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Ser Glu Tyr Ser Leu Thr Val Ile Ala Glu Asp Arg Gly Thr Pro Ser
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Leu Ser Thr Val Lys His Phe Thr Val Gln Ile Asn Asp Ile Asn Asp
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Asn Pro Pro His Phe Gln Arg Ser Arg Tyr Glu Phe Val Ile Ser Glu
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Asn Asn Ser Pro Gly Ala Tyr Ile Thr Thr Val Thr Ala Thr Asp Pro
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Phe Ile Leu Gly Ser Ser Ile Thr Thr Tyr Val Thr Ile Asp Pro Ser
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Asn Gly Ala Ile Tyr Ala Leu Arg Ile Phe Asp His Glu Glu Val Ser
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Gln Ile Thr Phe Val Val Glu Ala Arg Asp Gly Gly Ser Pro Lys Gln
465   470   475   480

Leu Val Ser Asn Thr Thr Val Val Leu Thr Ile Ile Asp Glu Asn Asp
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Asn Val Pro Val Val Ile Gly Pro Ala Leu Arg Asn Asn Thr Ala Glu
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Ile Thr Ile Pro Lys Gly Ala Glu Ser Gly Phe His Val Thr Arg Ile
                    515   520   525

Ala Ile Val Ala Gly Asn Glu Glu Asn Ile Phe Ile Ile Asp Pro Arg
    530   535   540

Ser Cys Asp Ile His Thr Asn Val Ser Met Asp Ser Val Pro Tyr Thr
545   550   555   560

Glu Trp Glu Leu Ser Val Ile Ile Gln Asp Lys Gly Asn Pro Gln Leu
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His Thr Lys Val Leu Leu Lys Cys Met Ile Phe Glu Tyr Ala Glu Ser
                    580   585   590

Val Thr Ser Thr Ala Met Thr Ser Val Ser Gln Ala Ser Leu Asp Val
                    595   600   605

Leu Val Ile Met Val Leu Phe Ala Thr Arg Cys Asn Arg Glu Lys Lys

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Asp Thr Arg Ser Tyr Asn Cys Arg Val Ala Glu Ser Thr Tyr Gln His
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His Pro Lys Arg Pro Ser Arg Gln Ile His Lys Gly Asp Ile Thr Leu
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Val Pro Thr Ile Asn Gly Thr Leu Pro Ile Arg Ser His His Arg Ser
              660   665   670

Ser Pro Ser Ser Ser Pro Thr Leu Glu Arg Gly Gln Met Gly Ser Arg
              675   680   685

Ser Ser Asn His Val Pro Glu Asn Phe Ser Leu Glu Leu Thr His Ala
              690   695   700

Thr Pro Ala Val Glu Gln Val Ser Gln Leu Leu Ser Met Leu His Gln
705   710   715   720

Gly Gln Tyr Gln Pro Arg Pro Ser Phe Arg Gly Asn Lys Tyr Ser Arg
              725   730   735

Ser Tyr Arg Tyr Ala Leu Gln Asp Met Asp Lys Phe Ser Leu Lys Asp
              740   745   750

Ser Gly Arg Gly Asp Ser Glu Ala Gly Asp Ser Asp Tyr Asp Leu Gly
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Arg Asp Ser Pro Ile Asp Arg Leu Leu Gly Glu Gly Phe Ser Asp Leu
              770   775   780

Glu Glu Cys Arg Val Leu Gly His Ser Asp Gln Cys Trp Met Pro Pro
785   790   795   800

Leu Pro Ser Pro Ser Ser Asp Tyr Arg Ser Asn Met Phe Ile Pro Gly
              805   810   815

Glu Glu Phe Pro Thr Gln Pro Gln Gln Gln His Pro His Gln Ser Leu
              820   825   830

Glu Asp Asp Ala Gln Pro Ala Asp Ser Gly Glu Lys Lys Lys Ser Phe
              835   840   845

Ser Thr Phe Gly Lys Asp Ser Pro Asn Asp Glu Asp Thr Gly Asp Thr
              850   855   860

Val Asp Arg Ser Asn Ser Leu Glu Arg Arg Lys Gly Pro Leu Pro Ala

8

Glu Glu Ile Pro Glu Asn Tyr Glu Glu Asp Asp Phe Asp Asn Val Leu
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Asn Pro Ser Thr Val Arg Phe Arg Ala Met Gln Arg Gly Asn Ser Pro
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Leu Leu Val Val Asn Glu Asp Asn Gly Glu Ile Ser Ile Gly Ala Thr
        50   55   60

Glu Phe Asp Val Ile Thr Leu Pro Thr Glu His Leu Gln Leu Phe His
 65   70   75   80

Ile Glu Val Glu Val Leu Asp Ile Asn Asp Asn Ser Pro Gln Phe Ser
                85   90   95

Arg Ser Leu Ile Pro Ile Glu Ile Ser Glu Ser Ala Ala Val Gly Thr
            100   105   110

Arg Ile Pro Leu Asp Ser Ala Phe Asp Pro Asp Val Gly Glu Asn Ser
    115   120   125

Leu His Thr Tyr Ser Leu Ser Ala Asn Asp Phe Phe Asn Ile Glu Val
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Arg Thr Arg Thr Asp Gly Ala Lys Tyr Ala Glu Leu Ile Val Val Arg
145   150   155   160

Ala Ser Asp Met Gly Val Pro Gln Arg Ser Gly Ser Ser Ile Leu Lys
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Ile Ser Ile Ser Asp Ser Asn Asp Asn Ser Pro Ala Phe Glu Gln Gln
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Ser Tyr Ile Ile Gln Leu Leu Glu Asn Ser Pro Val Gly Thr Leu Leu
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Leu Asp Leu Asn Ala Thr Asp Pro Asp Glu Gly Ala Asn Gly Lys Ile
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Val Tyr Ser Phe Ser Ser His Val Ser Pro Lys Ile Met Glu Thr Phe
225   230   235   240

Asp Tyr Glu Ile Thr Lys Ser Tyr Glu Ile Asp Val Gln Ala Gln Asp
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Leu Gly Pro Asn Ser Ile Pro Ala His Cys Lys Ile Ile Ile Lys Val
                260   265   270

Val Asp Val Asn Asp Asn Lys Pro Glu Ile Asn Ile Asn Leu Met Ser
    275   280   285

Pro Gly Lys Glu Glu Ile Ser Tyr Ile Phe Glu Gly Asp Pro Ile Asp
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Thr Phe Val Ala Leu Val Arg Val Gln Asp Lys Asp Ser Gly Leu Asn
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Gln Lys Thr Tyr Glu Asn Asn Tyr Leu Ile Leu Thr Asn Ala Thr Leu
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Asp Arg Glu Lys Arg Ser Glu Tyr Ser Leu Thr Val Ile Ala Glu Asp
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Arg Gly Thr Pro Ser Leu Ser Thr Val Lys His Phe Thr Val Gln Ile
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Asn Asp Ile Asn Asp Asn Pro Pro His Phe Gln Arg Ser Arg Tyr Glu
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Thr Ala Thr Asp Pro Asp Leu Gly Glu Asn Gly Gln Val Thr Tyr Thr
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Thr Ile Asp Pro Ser Asn Gly Ala Ile Tyr Ala Leu Arg Ile Phe Asp
            420   425   430

His Glu Glu Val Ser Gln Ile Thr Phe Val Val Glu Ala Arg Asp Gly
        435   440   445

Gly Ser Pro Lys Gln Leu Val Ser Asn Thr Thr Val Val Leu Thr Ile
    450   455   460

Ile Asp Glu Asn Asp Asn Val Pro Val Val Ile Gly Pro Ala Leu Arg
465   470   475   480

Asn Asn Thr Ala Glu Ile Thr Ile Pro Lys Gly Ala Glu Ser Gly Phe
            485   490   495

Ala Glu Leu Ser Cys Ala Ile Val Ala Gly Asn Glu Glu Asn Ile Phe
            500   505   510

Ile Ile Asp Pro Arg Ser Cys Asp Ile His Thr Asn Val Ser Met Asp
        515   520   525

Ser Val Pro Tyr Thr Glu Trp Glu Leu Ser Val Ile Ile Gln Asp Lys
    530   535   540

Gly Asn Pro Gln Leu His Thr Lys Val Leu Leu Lys Cys Met Ile Phe
545   550   555   560

Glu Tyr Ala Glu Ser Val Thr Ser Thr Ala Met Thr Ser Val Ser Gln
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Ile Cys Ala Val Leu Leu Val Ile Met Val Leu Phe Ala Thr Arg Cys
            580   585   590

Asn Arg Glu Lys Lys Asp Thr Arg Ser Tyr Asn Cys Arg Val Ala Glu
        595   600   605

Ser Thr Tyr Gln His His Pro Lys Arg Pro Ser Arg Gln Ile His Lys
    610   615   620

11

Gly Asp Ile Thr Leu Val Pro Thr Ile Asn Gly Thr Leu Pro Ile Arg
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Ser His His Arg Ser Ser Pro Ser Ser Ser Pro Thr Leu Glu Arg Gly
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Gln Met Gly Ser Arg Gln Ser His Asn Ser His Gln Ser Leu Asn Ser
                660   665   670

Glu Leu Thr His Ala Thr Pro Ala Val Glu Gln Val Ser Gln Leu Leu
                675   680   685

Ser Met Leu His Gln Gly Gln Tyr Gln Pro Arg Pro Ser Phe Arg Gly
        690   695   700

Asn Lys Tyr Ser Arg Ser Tyr Arg Tyr Ala Leu Gln Asp Met Asp Lys
705   710   715   720

Phe Ser Leu Lys Asp Ser Gly Arg Gly Asp Ser Glu Ala Gly Asp Ser
                725   730   735

Asp Tyr Asp Leu Gly Arg Asp Ser Pro Ile Asp Arg Leu Leu Gly Glu
                740   745   750

Met Arg Leu Cys Thr Glu Glu Cys Arg Val Leu Gly His Ser Asp Gln
                755   760   765

Cys Trp Met Pro Pro Leu Pro Ser Pro Ser Ser Asp Tyr Arg Ser Asn
        770   775   780

Met Phe Ile Pro Gly Glu Glu Phe Pro Thr Gln Pro Gln Gln Gln His
785   790   795   800

Pro His Gln Ser Leu Glu Asp Asp Ala Gln Pro Ala Asp Ser Gly Glu
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Lys Lys Lys Ser Phe Ser Thr Phe Gly Lys Asp Ser Pro Asn Asp Glu
                820   825   830

Ser Ser Val Phe Gln Arg Leu Leu Pro Pro Ser Leu Asp Thr Tyr Ser
        835   840   845

Gly Pro Pro Leu Gly Thr His Ser Ser Val Gln Pro Ser Ser Lys Trp
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Met Asp Ala Ser Glu Leu Val Ala Glu Ile Asn Lys Leu Leu Gln Asp
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Val Arg Gln Ser

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Asn Pro Ser Thr Val Arg Phe Arg Ala Met Gln Arg Gly Asn Ser Pro
            35   40   45

Leu Leu Val Val Asn Glu Asp Asn Gly Glu Ile Ser Ile Gly Ala Thr
        50   55   60

Glu Phe Asp Val Ile Thr Leu Pro Thr Glu His Leu Gln Leu Phe His
 65   70   75   80

Ile Glu Val Glu Val Leu Asp Ile Asn Asp Asn Ser Pro Gln Phe Ser
                85   90   95

Arg Ser Leu Ile Pro Ile Glu Ile Ser Glu Ser Ala Ala Val Gly Thr
            100   105   110

Arg Ile Pro Leu Asp Ser Ala Phe Asp Pro Asp Val Gly Glu Asn Ser
            115   120   125

Leu His Thr Tyr Ser Leu Ser Ala Asn Asp Phe Phe Asn Ile Glu Val
        130   135   140

Arg Thr Arg Thr Asp Gly Ala Lys Tyr Ala Glu Leu Ile Val Val Arg
145   150   155   160

Ala Ser Asp Met Gly Val Pro Gln Arg Ser Gly Ser Ser Ile Leu Lys
                165   170   175

Ile Ser Ile Ser Asp Ser Asn Asp Asn Ser Pro Ala Phe Glu Gln Gln
                180   185   190

Ser Tyr Ile Ile Gln Leu Leu Glu Asn Ser Pro Val Gly Thr Leu Leu

Leu Asp Leu Asn Ala Thr Asp Pro Asp Glu Gly Ala Asn Gly Lys Ile
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Val Tyr Ser Phe Ser Ser His Val Ser Pro Lys Ile Met Glu Thr Phe
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Asp Tyr Glu Ile Thr Lys Ser Tyr Glu Ile Asp Val Gln Ala Gln Asp
                245   250   255

Leu Gly Pro Asn Ser Ile Pro Ala His Cys Lys Ile Ile Ile Lys Val
                260   265   270

Val Asp Val Asn Asp Asn Lys Pro Glu Ile Asn Ile Asn Leu Met Ser
            275   280   285

Pro Gly Lys Glu Glu Ile Ser Tyr Ile Phe Glu Gly Asp Pro Ile Asp
        290   295   300

Thr Phe Val Ala Leu Val Arg Val Gln Asp Lys Asp Ser Gly Leu Asn
305   310   315   320

Gln Lys Thr Tyr Glu Asn Asn Tyr Leu Ile Leu Thr Asn Ala Thr Leu
                325   330   335

Asp Arg Glu Lys Arg Ser Glu Tyr Ser Leu Thr Val Ile Ala Glu Asp
                340   345   350

Arg Gly Thr Pro Ser Leu Ser Thr Val Lys His Phe Thr Val Gln Ile
            355   360   365

Asn Asp Ile Asn Asp Asn Pro Pro His Phe Gln Arg Ser Arg Tyr Glu
    370   375   380

Phe Val Ile Ser Glu Asn Asn Ser Pro Gly Ala Tyr Ile Thr Thr Val
385   390   395   400

Thr Ala Thr Asp Pro Asp Leu Gly Glu Asn Gly Gln Val Thr Tyr Thr
                405   410   415

Thr Ile Asp Pro Ser Asn Gly Ala Ile Tyr Ala Leu Arg Ile Phe Asp
                420   425   430

His Glu Glu Val Ser Gln Ile Thr Phe Val Val Glu Ala Arg Asp Gly
        435   440   445

Gly Ser Pro Lys Gln Leu Val Ser Asn Thr Thr Val Val Leu Thr Ile

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Ile Asp Glu Asn Asp Asn Val Pro Val Val Ile Gly Pro Ala Leu Arg
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Asn Asn Thr Ala Glu Ile Thr Ile Pro Lys Gly Ala Glu Ser Gly Phe
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Ala Glu Leu Ser Cys Ala Ile Val Ala Gly Asn Glu Glu Asn Ile Phe
                    500   505   510

Ile Ile Asp Pro Arg Ser Cys Asp Ile His Thr Asn Val Ser Met Asp
                    515   520   525

Ser Val Pro Tyr Thr Glu Trp Glu Leu Ser Val Ile Ile Gln Asp Lys
                    530   535   540

Gly Asn Pro Gln Leu His Thr Lys Val Leu Leu Lys Cys Met Ile Phe
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Pro Ile Arg Ser His His Arg Ser Ser Pro Ser Ser Ser Pro Thr Leu
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Glu Arg Gly Gln Met Gly Ser Arg Gln Ser His Asn Ser His Gln Ser
65   70   75   80

Phe Ser Leu Glu Leu Thr His Ala Thr Pro Ala Val Glu Gln Val Ser
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Gln Leu Leu Ser Met Leu His Gln Gly Gln Tyr Gln Pro Arg Pro Ser
            100   105   110

Phe Arg Gly Asn Lys Tyr Ser Arg Ser Tyr Arg Tyr Ala Leu Gln Asp
        115   120   125

Met Asp Lys Phe Ser Leu Lys Asp Ser Gly Arg Gly Asp Ser Glu Ala
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Gly Asp Ser Asp Tyr Asp Leu Gly Arg Asp Ser Pro Ile Asp Arg Leu
145   150   155   160

Pro Ala Ala Met Arg Leu Cys Thr Glu Glu Cys Arg Val Leu Gly His
            165   170   175

Ser Asp Gln Cys Trp Met Pro Pro Leu Pro Ser Pro Ser Ser Asp Tyr
            180   185   190

Arg Ser Asn Met Phe Ile Pro Gly Glu Glu Phe Pro Thr Gln Pro Gln
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Gln Gln His Pro His Gln Ser Leu Glu Asp Asp Ala Gln Pro Ala Asp
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Ser Gly Glu Lys Lys Lys Ser Phe Ser Thr Phe Gly Lys Asp Ser Pro
225   230   235   240

Ser Glu Met Ser Ser Val Phe Gln Arg Leu Leu Pro Pro Ser Leu Asp
            245   250   255

Thr Asn Cys Gly Pro Pro Leu Gly Thr His Ser Ser Val Gln Pro Ser
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<212> PRT
<213> Homo sapiens

<400> 33
Met His Gln Met Asn Ala Lys Met His Phe Arg Phe Val Phe Ala Leu
1   5   10   15

Leu Ile Val Ser Phe Asn His Asp Val Leu Gly Lys Asn Leu Lys Tyr
            20   25   30

Arg Ile Tyr Glu Glu Gln Arg Val Gly Ser Val Ile Ala Arg Leu Ser
        35   40   45

22

```
Glu Asp Val Ala Asp Val Leu Leu Lys Leu Pro Asn Pro Ser Thr Val
    50                  55                  60

Arg Phe Arg Ala Met Gln Arg Gly Asn Ser Pro Leu Leu Val Val Asn
65                  70                  75                  80

Glu Asp Asn Gly Glu Ile Ser Ile Gly Ala Thr Ile Asp Arg Glu Gln
                85                  90                  95

Thr Leu Pro Thr Glu His Leu Gln Leu Phe His Ile Glu Val Glu Val
            100                 105                 110

Leu Asp Ile Asn Asp Asn Ser Pro Gln Phe Ser Arg Ser Leu Ile Pro
        115                 120                 125

Ile Glu Ile Ser Glu Ser Ala Ala Val Gly Thr Arg Ile Pro Leu Asp
    130                 135                 140

Ser Ala Phe Asp Pro Asp Val Gly Glu Asn Ser Leu His Thr Tyr Ser
145                 150                 155                 160

Leu Ser Ala Asn Asp Phe Phe Asn Ile Glu Val Arg Thr Arg Thr Asp
            165                 170                 175

Glu Leu Lys Ser Ser Tyr Glu Leu Gln Leu Thr Ala Ser Asp Met Gly
        180                 185                 190

Val Pro Gln Arg Ser Gly Ser Ser Ile Leu Lys Ile Ser Ile Ser Asp
        195                 200                 205

Ser Asn Asp Asn Ser Pro Ala Phe Glu Gln Gln Ser Tyr Ile Ile Gln
    210                 215                 220

Leu Leu Glu Asn Ser Pro Val Gly Thr Leu Leu Leu Asp Leu Asn Ala
225                 230                 235                 240

Thr Asp Pro Asp Glu Gly Ala Asn Gly Lys Ile Val Tyr Ser Phe Ser
            245                 250                 255

Ser His Val Ser Pro Lys Ile Met Glu Thr Phe Lys Ile Asp Ser Glu
            260                 265                 270

Lys Ser Tyr Glu Ile Asp Val Gln Ala Gln Asp Leu Gly Pro Asn Ser
        275                 280                 285

Ile Pro Ala His Cys Lys Ile Ile Ile Lys Val Val Asp Val Asn Asp
    290                 295                 300
```

23

```
Asn Lys Pro Glu Ile Asn Ile Asn Leu Met Ser Pro Gly Lys Glu Glu
305                 310                 315                 320

Ile Ser Tyr Ile Phe Glu Gly Asp Pro Ile Asp Thr Phe Val Ala Leu
            325                 330                 335

Val Arg Val Gln Asp Lys Asp Ser Gly Leu Asn Gly Glu Ile Val Cys
            340                 345                 350

Asn Asn Tyr Leu Ile Leu Thr Asn Ala Thr Leu Asp Arg Glu Lys Arg
        355                 360                 365

Ser Glu Tyr Ser Leu Thr Val Ile Ala Glu Asp Arg Gly Thr Pro Ser
    370                 375                 380

Leu Ser Thr Val Lys His Phe Thr Val Gln Ile Asn Asp Ile Asn Asp
385                 390                 395                 400

Asn Pro Pro His Phe Gln Arg Ser Arg Tyr Glu Phe Val Ile Ser Glu
            405                 410                 415

Asn Asn Ser Pro Gly Ala Tyr Ile Thr Thr Val Thr Ala Thr Asp Pro
            420                 425                 430

Phe Ile Leu Gly Ser Ser Ile Thr Thr Tyr Val Thr Ile Asp Pro Ser
        435                 440                 445

Asn Gly Ala Ile Tyr Ala Leu Arg Ile Phe Asp His Glu Glu Val Ser
    450                 455                 460

Gln Ile Thr Phe Val Val Glu Ala Arg Asp Gly Gly Ser Pro Lys Gln
465                 470                 475                 480

Leu Val Ser Asn Thr Thr Val Val Leu Thr Ile Ile Asp Glu Asn Asp
            485                 490                 495

Asn Val Pro Val Val Ile Gly Pro Ala Leu Arg Asn Asn Thr Ala Glu
            500                 505                 510

Ile Thr Ile Pro Lys Gly Ala Glu Ser Gly Phe His Val Thr Arg Ile
        515                 520                 525

Ala Ile Val Ala Gly Asn Glu Glu Asn Ile Phe Ile Ile Asp Pro Arg
    530                 535                 540

Ser Cys Asp Ile His Thr Asn Val Ser Met Asp Ser Val Pro Tyr Thr
545                 550                 555                 560
```

24

Glu Trp Glu Leu Ser Val Ile Ile Gln Asp Lys Gly Asn Pro Gln Leu
              565   570   575

His Thr Lys Val Leu Leu Lys Cys Met Ile Phe Glu Tyr Ala Glu Ser
              580   585   590

Val Thr Ser Thr Ala Met Thr Ser Val Ser Gln Ala Ser Leu Asp Val
              595   600   605

Leu Val Ile Met Val Leu Phe Ala Thr Arg Cys Asn Arg Glu Lys Lys
              610   615   620

Asp Thr Arg Ser Tyr Asn Cys Arg Val Ala Glu Ser Thr Tyr Gln His
625   630   635   640

His Pro Lys Arg Pro Ser Arg Gln Ile His Lys Gly Asp Ile Thr Leu
              645   650   655

Val Pro Thr Ile Asn Gly Thr Leu Pro Ile Arg Ser His His Arg Ser
              660   665   670

Ser Pro Ser Ser Ser Pro Thr Leu Glu Arg Gly Gln Met Gly Ser Arg
              675   680   685

Ser Ser Asn His Val Pro Glu Asn Phe Ser Leu Glu Leu Thr His Ala
              690   695   700

Thr Pro Ala Val Glu Val Ser Gln Leu Leu Ser Met Leu His Gln Gly
705   710   715   720

Gln Tyr Gln Pro Arg Pro Ser Phe Arg Gly Asn Lys Tyr Ser Arg Ser
              725   730   735

Tyr Arg Tyr Ala Leu Gln Asp Met Asp Lys Phe Ser Leu Lys Asp Ser
              740   745   750

Gly Arg Gly Asp Ser Glu Ala Gly Asp Ser Asp Tyr Asp Leu Gly Arg
              755   760   765

Asp Ser Pro Ile Asp Arg Leu Leu Gly Glu Gly Phe Ser Asp Leu Phe
              770   775   780

Glu Cys Arg Val Leu Gly His Ser Asp Gln Cys Trp Met Pro Pro Leu
785   790   795   800

Pro Ser Pro Ser Ser Asp Tyr Arg Ser Asn Met Phe Ile Pro Gly Glu
              805   810   815

25

```
Glu Phe Pro Thr Gln Pro Gln Gln Gln His Pro His Gln Ser Leu Glu
        820             825             830

Asp Asp Ala Gln Pro Ala Asp Ser Gly Glu Lys Lys Lys Ser Phe Ser
        835             840             845

Thr Phe Gly Lys Asp Ser Pro Asn Asp Glu Asp Thr Gly Asp Thr Ser
        850             855             860

Asp Arg Ser Asn Ser Leu Glu Arg Arg Lys Gly Pro Leu Pro Ala Lys
865             870             875             880

Asn His Leu Asn Asp Gly Lys His Glu Leu Met Asp Ala Ser Glu Leu
            885             890             895

Val Ala Glu Ile Asn Lys Leu Leu Gln Asp Val Arg Gln Ser
            900             905             910


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<210> 35
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<212> PRT
<213> Homo sapiens

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Lys Asn Leu Lys Tyr Arg Ile Tyr Glu Glu Gln Arg Val Gly Ser Val
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Ile Ala Arg Leu Ser Glu Asp Val Ala Asp Val Leu Leu Lys Leu Pro
            20              25              30

Asn Pro Ser Thr Val Arg Phe Arg Ala Met Gln Arg Gly Asn Ser Pro
        35              40              45

Leu Leu Val Val Asn Glu Asp Asn Gly Glu Ile Ser Ile Gly Ala Thr
    50              55              60

Glu Phe Asp Val Ile Thr Leu Pro Thr Glu His Leu Gln Leu Phe His
65              70              75              80

Ile Glu Val Glu Val Leu Asp Ile Asn Asp Asn Ser Pro Gln Phe Ser
            85              90              95
```

26

Arg Ser Leu Ile Pro Ile Glu Ile Ser Glu Ser Ala Ala Val Gly Thr
            100   105   110

Arg Ile Pro Leu Asp Ser Ala Phe Asp Pro Asp Val Gly Glu Asn Ser
            115   120   125

Leu His Thr Tyr Ser Leu Ser Ala Asn Asp Phe Phe Asn Ile Glu Val
            130   135   140

Arg Thr Arg Thr Asp Gly Ala Lys Tyr Ala Glu Leu Ile Val Val Arg
145   150   155   160

Ala Ser Asp Met Gly Val Pro Gln Arg Ser Gly Ser Ser Ile Leu Lys
                165   170   175

Ile Ser Ile Ser Asp Ser Asn Asp Asn Ser Pro Ala Phe Glu Gln Gln
                180   185   190

Ser Tyr Ile Ile Gln Leu Leu Glu Asn Ser Pro Val Gly Thr Leu Leu
            195   200   205

Leu Asp Leu Asn Ala Thr Asp Pro Asp Glu Gly Ala Asn Gly Lys Ile
            210   215   220

Val Tyr Ser Phe Ser Ser His Val Ser Pro Lys Ile Met Glu Thr Phe
225   230   235   240

Asp Tyr Glu Ile Thr Lys Ser Tyr Glu Ile Asp Val Gln Ala Gln Asp
                245   250   255

Leu Gly Pro Asn Ser Ile Pro Ala His Cys Lys Ile Ile Ile Lys Val
                260   265   270

Val Asp Val Asn Asp Asn Lys Pro Glu Ile Asn Ile Asn Leu Met Ser
            275   280   285

Pro Gly Lys Glu Glu Ile Ser Tyr Ile Phe Glu Gly Asp Pro Ile Asp
            290   295   300

Thr Phe Val Ala Leu Val Arg Val Gln Asp Lys Asp Ser Gly Leu Asn
305   310   315   320

Gln Lys Thr Tyr Glu Asn Asn Tyr Leu Ile Leu Thr Asn Ala Thr Leu
                325   330   335

Asp Arg Glu Lys Arg Ser Glu Tyr Ser Leu Thr Val Ile Ala Glu Asp
            340   345   350

27

Arg Gly Thr Pro Ser Leu Ser Thr Val Lys His Phe Thr Val Gln Ile
        355   360   365

Asn Asp Ile Asn Asp Asn Pro Pro His Phe Gln Arg Ser Arg Tyr Glu
        370   375   380

Phe Val Ile Ser Glu Asn Asn Ser Pro Gly Ala Tyr Ile Thr Thr Val
385   390   395   400

Thr Ala Thr Asp Pro Asp Leu Gly Glu Asn Gly Gln Val Thr Tyr Thr
                405   410   415

Thr Ile Asp Pro Ser Asn Gly Ala Ile Tyr Ala Leu Arg Ile Phe Asp
                420   425   430

His Glu Glu Val Ser Gln Ile Thr Phe Val Val Glu Ala Arg Asp Gly
        435   440   445

Gly Ser Pro Lys Gln Leu Val Ser Asn Thr Thr Val Val Leu Thr Ile
        450   455   460

Ile Asp Glu Asn Asp Asn Val Pro Val Val Ile Gly Pro Ala Leu Arg
465   470   475   480

Asn Asn Thr Ala Glu Ile Thr Ile Pro Lys Gly Ala Glu Ser Gly Phe
                485   490   495

Ala Glu Leu Ser Cys Ala Ile Val Ala Gly Asn Glu Glu Asn Ile Phe
                500   505   510

Ile Ile Asp Pro Arg Ser Cys Asp Ile His Thr Asn Val Ser Met Asp
        515   520   525

Ser Val Pro Tyr Thr Glu Trp Glu Leu Ser Val Ile Ile Gln Asp Lys
        530   535   540

Gly Asn Pro Gln Leu His Thr Lys Val Leu Leu Lys Cys Met Ile Phe
545   550   555   560

Glu Tyr Ala Glu Ser Val Thr Ser Thr Ala Met Thr Ser Val Ser Gln
                565   570   575

Ile Cys Ala Val Leu Leu Val Ile Met Val Leu Phe Ala Thr Arg Cys
                580   585   590

Asn Arg Glu Lys Lys Asp Thr Arg Ser Tyr Asn Cys Arg Val Ala Glu
        595   600   605

28

```
Ser Thr Tyr Gln His His Pro Lys Arg Pro Ser Arg Gln Ile His Lys
    610                 615                 620

Gly Asp Ile Thr Leu Val Pro Thr Ile Asn Gly Thr Leu Pro Ile Arg
625                 630                 635                 640

Ser His His Arg Ser Ser Pro Ser Ser Ser Pro Thr Leu Glu Arg Gly
                645                 650                 655

Gln Met Gly Ser Arg Gln Ser His Asn Ser His Gln Ser Leu Asn Ser
                660                 665                 670

Glu Leu Thr His Ala Thr Pro Ala Val Glu Val Ser Gln Leu Leu Ser
                675                 680                 685

Met Leu His Gln Gly Gln Tyr Gln Pro Arg Pro Ser Phe Arg Gly Asn
    690                 695                 700

Lys Tyr Ser Arg Ser Tyr Arg Tyr Ala Leu Gln Asp Met Asp Lys Phe
705                 710                 715                 720

Ser Leu Lys Asp Ser Gly Arg Gly Asp Ser Glu Ala Gly Asp Ser Asp
                725                 730                 735

Tyr Asp Leu Gly Arg Asp Ser Pro Ile Asp Arg Leu Leu Gly Glu Gly
                740                 745                 750

Arg Leu Cys Thr Glu Glu Cys Arg Val Leu Gly His Ser Asp Gln Cys
                755                 760                 765

Trp Met Pro Pro Leu Pro Ser Pro Ser Ser Asp Tyr Arg Ser Asn Met
    770                 775                 780

Phe Ile Pro Gly Glu Glu Phe Pro Thr Gln Pro Gln Gln Gln His Pro
785                 790                 795                 800

His Gln Ser Leu Glu Asp Asp Ala Gln Pro Ala Asp Ser Gly Glu Lys
                805                 810                 815

Lys Lys Ser Phe Ser Thr Phe Gly Lys Asp Ser Pro Asn Asp Glu Asp
                820                 825                 830

Ser Val Phe Gln Arg Leu Leu Pro Ser Leu Asp Thr Tyr Ser Glu
                835                 840                 845

Leu Pro Ala Met Glu Glu Ile Pro Glu Asn Tyr Glu Glu Asp Asp Phe
    850                 855                 860
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29

Asp Ala Ser Glu Leu Val Ala Glu Ile Asn Lys Leu Leu Gln Asp Val
865   870   875   880

Arg Gln Ser

<210> 36
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<210> 37
<400> 37
000

<210> 38
<211> 423
<212> PRT
<213> Homo sapiens

<400> 38
Ala Thr Arg Cys Asn Arg Glu Lys Lys Asp Thr Arg Ser Tyr Asn Cys
 1   5   10   15

Arg Val Ala Glu Ser Thr Tyr Gln His His Pro Lys Arg Pro Ser Arg
                20   25   30

Gln Ile His Lys Gly Asp Ile Thr Leu Val Pro Thr Ile Asn Gly Thr
            35   40   45

Leu Pro Ile Arg Ser His His Arg Ser Ser Pro Ser Ser Ser Pro Thr
    50   55   60

Leu Glu Arg Gly Gln Met Gly Ser Arg Gln Ser His Asn Ser His Gln
 65   70   75   80

Asn Phe Ser Leu Glu Leu Thr His Ala Thr Pro Ala Val Glu Val Ser
                85   90   95

Gln Leu Leu Ser Met Leu His Gln Gly Gln Tyr Gln Pro Arg Pro Ser
            100   105   110

Phe Arg Gly Asn Lys Tyr Ser Arg Ser Tyr Arg Tyr Ala Leu Gln Asp
            115   120   125

```
Met Asp Lys Phe Ser Leu Lys Asp Ser Gly Arg Gly Asp Ser Glu Ala
    130                 135                 140

Gly Asp Ser Asp Tyr Asp Leu Gly Arg Asp Ser Pro Ile Asp Arg Leu
145                 150                 155                 160

Pro Ala Ala Met Arg Leu Cys Thr Glu Glu Cys Arg Val Leu Gly His
                165                 170                 175

Ser Asp Gln Cys Trp Met Pro Pro Leu Pro Ser Pro Ser Ser Asp Tyr
                180                 185                 190

Arg Ser Asn Met Phe Ile Pro Gly Glu Glu Phe Pro Thr Gln Pro Gln
            195                 200                 205

Gln Gln His Pro His Gln Ser Leu Glu Asp Asp Ala Gln Pro Ala Asp
    210                 215                 220

Ser Gly Glu Lys Lys Lys Ser Phe Ser Thr Phe Gly Lys Asp Ser Pro
225                 230                 235                 240

Ser Glu Met Ser Ser Val Phe Gln Arg Leu Leu Pro Pro Ser Leu Asp
                245                 250                 255

Thr Asn Cys Gly Pro Pro Leu Gly Thr His Ser Ser Val Gln Pro Ser
                260                 265                 270

His Glu Leu Met Asp Ala Ser Glu Leu Val Ala Glu Ile Asn Lys Leu
            275                 280                 285

Leu Gln Asp Val Arg Gln Ser
    290                 295


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<210> 40
<211> 2338
<212> DNA
<213> Homo sapiens

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agaagccgat atgaatttgt aatttcagaa aataactcac caggggcata tatcaccact  180
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31

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<212> DNA
<213> Mus sp.

<400> 41
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ccgtctggca cggtgatagg gaaactgtcc caagaactaa gagtggagga gaggcgtggg 180
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32

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<210> 42
<211> 1183
<212> PRT
<213> Mus sp.

<400> 42
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                20                  25                  30

Lys Phe Gln Val Thr Glu Glu Val Pro Ser Gly Thr Val Ile Gly Lys
            35                  40                  45

Asp Ala Phe Gln Ile Leu Gln Leu Pro Gln Ala Leu Pro Val Gln Met
        50                  55                  60

Asn Ser Glu Asp Gly Leu Leu Ser Thr Ser Ser Arg Leu Asp Arg Glu
 65                  70                  75                  80

Lys Leu Cys Arg Gln Glu Asp Pro Cys Leu Val Ser Phe Asp Val Leu
                85                  90                  95

Ala Thr Gly Ala Ser Ala Leu Ile His Val Glu Ile Gln Val Leu Asp
                100                 105                 110

Ile Asn Asp His Gln Pro Gln Phe Pro Lys Asp Glu Gln Glu Leu Glu
            115                 120                 125

Ile Ser Glu Ser Ala Ser Leu His Thr Arg Ile Pro Leu Asp Arg Ala
        130                 135                 140

Leu Asp Gln Asp Thr Gly Pro Asn Ser Leu Tyr Ser Tyr Ser Leu Ser
145                 150                 155                 160

Pro Ser Glu His Phe Ala Leu Asp Val Ile Val Gly Pro Asp Glu Thr
                165                 170                 175
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34

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Lys His Ala Glu Leu Val Val Val Lys Glu Leu Asp Arg Glu Leu His
            180                 185                 190

Ser Tyr Phe Asp Leu Val Leu Thr Ala Tyr Asp Asn Gly Asn Pro Pro
            195                 200                 205

Lys Ser Gly Ile Ser Val Val Lys Val Asn Val Leu Asp Ser Asn Asp
   210                 215                 220

Asn Ser Pro Val Phe Ala Glu Ser Ser Leu Ala Leu Glu Ile Pro Glu
225                 230                 235                 240

Asp Thr Val Pro Gly Thr Leu Leu Ile Asn Leu Thr Ala Thr Asp Pro
            245                 250                 255

Asp Gln Gly Pro Asn Gly Glu Val Glu Phe Phe Phe Gly Lys His Val
            260                 265                 270

Ser Pro Glu Val Met Asn Thr Phe Gly Ile Asp Ala Lys Thr Gly Gln
            275                 280                 285

Ile Ile Leu Arg Gln Ala Leu Asp Tyr Glu Lys Asn Pro Ala Tyr Glu
   290                 295                 300

Val Asp Val Gln Ala Arg Asp Leu Gly Pro Asn Ser Ile Pro Gly His
305                 310                 315                 320

Cys Lys Val Leu Ile Lys Val Leu Asp Val Asn Asp Asn Ala Pro Ser
            325                 330                 335

Ile Leu Ile Thr Trp Ala Ser Gln Thr Ser Leu Val Ser Glu Asp Leu
            340                 345                 350

Pro Arg Asp Ser Phe Ile Ala Leu Val Ser Ala Asn Asp Leu Asp Ser
            355                 360                 365

Gly Asn Asn Gly Leu Val His Cys Trp Leu Asn Gln Glu Leu Gly His
   370                 375                 380

Phe Arg Leu Lys Arg Thr Asn Gly Asn Thr Tyr Met Leu Leu Thr Asn
385                 390                 395                 400

Ala Thr Leu Asp Arg Glu Gln Trp Pro Ile Tyr Thr Leu Thr Val Phe
            405                 410                 415

Ala Gln Asp Gln Gly Pro Gln Pro Leu Ser Ala Glu Lys Glu Leu Gln
            420                 425                 430
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35

Ile Gln Val Ser Asp Val Asn Asp Asn Ala Pro Val Phe Glu Lys Ser
        435   440   445

Arg Tyr Glu Val Ser Thr Trp Glu Asn Asn Pro Pro Ser Leu His Leu
        450   455   460

Ile Thr Leu Lys Ala His Asp Ala Asp Leu Gly Ser Asn Gly Lys Val
465   470   475   480

Ser Tyr Arg Ile Lys Asp Ser Pro Val Ser His Leu Val Ile Ile Asp
                485   490   495

Phe Glu Thr Gly Glu Val Thr Ala Gln Arg Ser Leu Asp Tyr Glu Gln
        500   505   510

Met Ala Gly Phe Glu Phe Gln Val Ile Ala Glu Asp Arg Gly Gln Pro
        515   520   525

Gln Leu Ala Ser Ser Ile Ser Val Trp Val Ser Leu Leu Asp Ala Asn
        530   535   540

Asp Asn Ala Pro Glu Val Ile Gln Pro Val Leu Ser Glu Gly Lys Ala
545   550   555   560

Thr Leu Ser Val Leu Val Asn Ala Ser Thr Gly His Leu Leu Leu Pro
                565   570   575

Ile Glu Asn Pro Ser Gly Met Asp Pro Ala Gly Thr Gly Ile Pro Pro
                580   585   590

Lys Ala Thr His Ser Pro Trp Ser Phe Leu Leu Leu Thr Ile Val Ala
        595   600   605

Arg Asp Ala Asp Ser Gly Ala Asn Gly Glu Leu Phe Tyr Ser Ile Gln
        610   615   620

Ser Gly Asn Asp Ala His Leu Phe Phe Leu Ser Pro Ser Leu Gly Gln
625   630   635   640

Leu Phe Ile Asn Val Thr Asn Ala Ser Ser Leu Ile Gly Ser Gln Trp
                645   650   655

Asp Leu Gly Ile Val Val Glu Asp Gln Gly Ser Pro Ser Leu Gln Thr
                660   665   670

Gln Val Ser Leu Lys Val Val Phe Val Thr Ser Val Asp His Leu Arg
        675   680   685

36

Asp Ser Ala His Glu Pro Gly Val Leu Ser Thr Pro Ala Leu Ala Leu
    690   695   700

Ile Cys Leu Ala Val Leu Leu Ala Ile Phe Gly Leu Leu Leu Ala Leu
705   710   715   720

Phe Val Ser Ile Cys Arg Thr Glu Arg Lys Asp Asn Arg Ala Tyr Asn
            725   730   735

Cys Arg Glu Ala Glu Ser Ser Tyr Arg His Gln Pro Lys Arg Pro Gln
            740   745   750

Lys His Ile Gln Lys Ala Asp Ile His Leu Val Pro Val Leu Arg Ala
        755   760   765

His Glu Asn Glu Thr Asp Glu Val Arg Pro Ser His Lys Asp Thr Ser
    770   775   780

Lys Glu Thr Leu Met Glu Ala Gly Trp Asp Ser Cys Leu Glu Ala Pro
785   790   795   800

Phe His Leu Thr Pro Thr Leu Tyr Arg Thr Leu Arg Asn Gln Gly Asn
            805   810   815

Gln Gly Glu Leu Ala Glu Ser Gln Glu Val Leu Gln Asp Thr Phe Asn
            820   825   830

Phe Leu Phe Asn His Pro Arg Gln Arg Asn Ala Ser Arg Glu Asn Leu
        835   840   845

Asn Leu Pro Glu Ser Pro Pro Ala Val Arg Gln Pro Leu Leu Arg Pro
    850   855   860

Leu Lys Val Pro Gly Ser Pro Ile Ala Arg Ala Thr Gly Asp Gln Asp
865   870   875   880

Lys Glu Glu Ala Pro Gln Ser Pro Ala Ser Ser Ala Thr Leu Arg
            885   890   895

Arg Gln Arg Asn Phe Asn Gly Lys Val Ser Pro Arg Gly Glu Ser Gly
            900   905   910

Pro His Gln Ile Leu Arg Ser Leu Val Arg Leu Ser Val Ala Ala Phe
        915   920   925

Ala Glu Arg Asn Pro Val Glu Glu Pro Ala Gly Asp Ser Pro Pro Val
    930   935   940

37

Gln Gln Ile Ser Gln Leu Leu Ser Leu Leu His Gln Gly Gln Phe Gln
945   950   955   960

Pro Lys Pro Asn His Arg Gly Asn Lys Tyr Leu Ala Lys Pro Gly Gly
                965   970   975

Ser Ser Arg Gly Thr Ile Pro Asp Thr Glu Gly Leu Val Gly Leu Lys
                980   985   990

Pro Ser Gly Gln Ala Glu Pro Asp Leu Glu Glu Gly Pro Pro Ser Pro
                995   1000   1005

Leu Ser Ser Leu Leu Asp Pro Asn Thr Gly Leu Ala Leu Asp Lys Leu
        1010   1015   1020

Ser Pro Pro Asp Pro Ala Trp Met Ala Arg Leu Ser Leu Pro Leu Thr
1025   1030   1035   1040

Ser Glu Glu Pro Arg Thr Phe Gln Thr Phe Gly Lys Thr Val Gly Pro
                1045   1050   1055

Gly Pro Glu Leu Ser Pro Thr Gly Thr Arg Leu Ala Ser Thr Phe Val
                1060   1065   1070

Ser Glu Met Ser Ser Leu Leu Glu Met Leu Leu Gly Gln His Thr Val
                1075   1080   1085

Pro Val Glu Ala Ala Ser Ala Ala Leu Arg Arg Leu Ser Val Cys Gly
        1090   1095   1100

Arg Thr Leu Ser Leu Asp Leu Ala Thr Ser Gly Ala Ser Ala Ser Glu
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Ala Gln Gly Arg Lys Lys Ala Ala Glu Ser Arg Leu Gly Cys Gly
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<213> Homo sapiens

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aaaaaattac acaacagcag ccgcggcgat gacgtggagg ctgccgcct ccacgtgcgc 180
ggcgctcctg attctgctgt gggcgctgac gaccgaaggt gatctgaaag tagagatgat 240
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agtgggcatg aaagagaatg aagacaaata tatgtgtgag tcaagtgggt tctacccaga 660
ggctattaat ataacatggg agaagcagac ccagaagttt ccccatccca tagagatttc 720
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39

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gcagataagg gaacttgtac aggggggctt gcctaaaaca tgcccacagc cacatacatt 2040
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<211> 1095
<212> DNA
<213> Homo sapiens

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aatgacaatg tcaccatatt ctgcaatatc ttttattccc aaccccctcaa catcacgtct 180
atgggtatca cctggttttg gaagagtctg acgtttgaca agaagtcaa agtctttgaa 240
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cgatgtgagg tggtggtcac ccctctgaag gcacagggaa cagtccagct tgaagttgtg 420
gcttccccag ccagcagatt gttgctggat caagtgggca tgaaagagaa tgaagacaaa 480
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acccagaagt ttccccatcc catagagatt ctgaggatg tcatcactgg tcccaccatc 600
aagaatatgg atggcacatt taatgtcact agctgcttga gctgaactc ctctcaggaa 660
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40

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<210> 53
<211> 365
<212> PRT
<213> Homo sapiens

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Met Thr Trp Arg Ala Ala Ala Ser Thr Cys Ala Ala Leu Leu Ile Leu
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Leu Trp Ala Leu Thr Thr Glu Gly Asp Leu Lys Val Glu Met Met Ala
            20   25   30

Gly Gly Thr Gln Ile Thr Pro Leu Asn Asp Asn Val Thr Ile Phe Cys
        35   40   45

Asn Ile Phe Tyr Ser Gln Pro Leu Asn Ile Thr Ser Met Gly Ile Thr
    50   55   60

Trp Phe Trp Lys Ser Leu Thr Phe Asp Lys Glu Val Lys Val Phe Glu
 65   70   75   80

Phe Phe Gly Asp His Gln Glu Ala Phe Arg Pro Gly Ala Ile Val Ser
            85   90   95

Pro Trp Arg Leu Lys Ser Gly Asp Ala Ser Leu Arg Leu Pro Gly Ile
            100   105   110

Gln Leu Glu Glu Ala Gly Glu Tyr Arg Cys Glu Val Val Val Thr Pro
        115   120   125

Leu Lys Ala Gln Gly Thr Val Gln Leu Glu Val Val Ala Ser Pro Ala
    130   135   140

Ser Arg Leu Leu Leu Asp Gln Val Gly Met Lys Glu Asn Glu Asp Lys
145   150   155   160

Tyr Met Cys Glu Ser Ser Gly Phe Tyr Pro Glu Ala Ile Asn Ile Thr
            165   170   175

Trp Glu Lys Gln Thr Gln Lys Phe Pro His Pro Ile Glu Ile Ser Glu
            180   185   190

41

```
Asp Val Ile Thr Gly Pro Thr Ile Lys Asn Met Asp Gly Thr Phe Asn
        195                 200             205

Val Thr Ser Cys Leu Lys Leu Asn Ser Ser Gln Glu Asp Pro Gly Thr
        210             215             220

Val Tyr Gln Cys Val Val Arg His Ala Ser Leu His Thr Pro Leu Arg
225             230             235             240

Ser Asn Phe Thr Leu Thr Ala Ala Arg His Ser Leu Ser Glu Thr Glu
            245             250             255

Lys Thr Asp Asn Phe Ser Ile His Trp Trp Pro Ile Ser Phe Ile Gly
            260             265             270

Val Gly Leu Val Leu Leu Ile Val Leu Ile Pro Trp Lys Lys Val Arg
        275             280             285

Gly Ser Lys Ala Lys Phe Ser Pro Val Ser Trp Ala Ser Lys Lys Leu
        290             295             300

Leu Glu Gln Leu Leu Pro Thr Leu Gln Ala Ser Arg Asp Arg Pro Ala
305             310             315             320

Gly Lys Asp Phe Val Ser Pro Ser Ser Pro Ser Gly Val Gly Asn Val
            325             330             335

Gly Cys Val Pro Ile Gln Phe Pro Ile Thr Glu Asp Leu Ala Val Thr
            340             345             350

Tyr His Leu Thr Ser Val Trp Trp Phe Val Thr Leu Gly
        355             360             365


<210> 54
<211> 341
<212> PRT
<213> Homo sapiens

<400> 54
Asp Leu Lys Val Glu Met Met Ala Gly Gly Thr Gln Ile Thr Pro Leu
  1             5               10              15

Asn Asp Asn Val Thr Ile Phe Cys Asn Ile Phe Tyr Ser Gln Pro Leu
        20              25              30

Asn Ile Thr Ser Met Gly Ile Thr Trp Phe Trp Lys Ser Leu Thr Phe
```

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             35                    40                       45

Asp Lys Glu Val Lys Val Phe Glu Phe Phe Gly Asp His Gln Glu Ala
    50                    55                       60

Phe Arg Pro Gly Ala Ile Val Ser Pro Trp Arg Leu Lys Ser Gly Asp
65                    70                       75                80

Ala Ser Leu Arg Leu Pro Gly Ile Gln Leu Glu Glu Ala Gly Glu Tyr
             85                       90                       95

Arg Cys Glu Val Val Val Thr Pro Leu Lys Ala Gln Gly Thr Val Gln
             100                      105                      110

Leu Glu Val Val Ala Ser Pro Ala Ser Arg Leu Leu Leu Asp Gln Val
             115                      120                      125

Gly Met Lys Glu Asn Glu Asp Lys Tyr Met Cys Glu Ser Ser Gly Phe
             130                      135                      140

Tyr Pro Glu Ala Ile Asn Ile Thr Trp Glu Lys Gln Thr Gln Lys Phe
145                      150                      155                160

Pro His Pro Ile Glu Ile Ser Glu Asp Val Ile Thr Gly Pro Thr Ile
                  165                      170                      175

Lys Asn Met Asp Gly Thr Phe Asn Val Thr Ser Cys Leu Lys Leu Asn
             180                      185                      190

Ser Ser Gln Glu Asp Pro Gly Thr Val Tyr Gln Cys Val Val Arg His
             195                      200                      205

Ala Ser Leu His Thr Pro Leu Arg Ser Asn Phe Thr Leu Thr Ala Ala
             210                      215                      220

Arg His Ser Leu Ser Glu Thr Glu Lys Thr Asp Asn Phe Ser Ile His
225                      230                      235                240

Trp Trp Pro Ile Ser Phe Ile Gly Val Gly Leu Val Leu Leu Ile Val
                  245                      250                      255

Leu Ile Pro Trp Lys Lys Val Arg Gly Ser Lys Ala Lys Phe Ser Pro
                  260                      265                      270

Val Ser Trp Ala Ser Lys Lys Leu Leu Glu Gln Leu Leu Pro Thr Leu
                  275                      280                      285

Gln Ala Ser Arg Asp Arg Pro Ala Gly Lys Asp Phe Val Ser Pro Ser
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Ser Pro Ser Gly Val Gly Asn Val Gly Cys Val Pro Ile Gln Phe Pro
305   310   315   320

Ile Thr Glu Asp Leu Ala Val Thr Tyr His Leu Thr Ser Val Trp Trp
                    325   330   335

Phe Val Thr Leu Gly
                    340

<210> 55
<211> 24
<212> PRT
<213> Homo sapiens

<400> 55
Met Thr Trp Arg Ala Ala Ala Ser Thr Cys Ala Ala Leu Leu Ile Leu
   1   5   10   15

Leu Trp Ala Leu Thr Thr Glu Gly
                    20

<210> 56
<211> 239
<212> PRT
<213> Homo sapiens

<400> 56
Leu Lys Val Glu Met Met Ala Gly Gly Thr Gln Ile Thr Pro Leu Asn
   1   5   10   15

Asp Asn Val Thr Ile Phe Cys Asn Ile Phe Tyr Ser Gln Pro Leu Asn
                    20   25   30

Ile Thr Ser Met Gly Ile Thr Trp Phe Trp Lys Ser Leu Thr Phe Asp
                    35   40   45

Lys Glu Val Lys Val Phe Glu Phe Phe Gly Asp His Gln Glu Ala Phe
          50   55   60

Arg Pro Gly Ala Ile Val Ser Pro Trp Arg Leu Lys Ser Gly Asp Ala
   65   70   75   80

Ser Leu Arg Leu Pro Gly Ile Gln Leu Glu Glu Ala Gly Glu Tyr Arg
                    85   90   95

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Cys Glu Val Val Val Thr Pro Leu Lys Ala Gln Gly Thr Val Gln Leu
            100                 105                 110

Glu Val Val Ala Ser Pro Ala Ser Arg Leu Leu Leu Asp Gln Val Gly
            115                 120                 125

Met Lys Glu Asn Glu Asp Lys Tyr Met Cys Glu Ser Ser Gly Phe Tyr
        130                 135                 140

Pro Glu Ala Ile Asn Ile Thr Trp Glu Lys Gln Thr Gln Lys Phe Pro
145                 150                 155                 160

His Pro Ile Glu Ile Ser Glu Asp Val Ile Thr Gly Pro Thr Ile Lys
                165                 170                 175

Asn Met Asp Gly Thr Phe Asn Val Thr Ser Cys Leu Lys Leu Asn Ser
            180                 185                 190

Ser Gln Glu Asp Pro Gly Thr Val Tyr Gln Cys Val Val Arg His Ala
        195                 200                 205

Ser Leu His Thr Pro Leu Arg Ser Asn Phe Thr Leu Thr Ala Ala Arg
    210                 215                 220

His Ser Leu Ser Glu Thr Glu Lys Thr Asp Asn Phe Ser Ile His
225                 230                 235


<210> 57
<211> 84
<212> PRT
<213> Homo sapiens

<400> 57
Asn Asp Asn Val Thr Ile Phe Cys Asn Ile Phe Tyr Ser Gln Pro Leu
  1               5                  10                  15

Asn Ile Thr Ser Met Gly Ile Thr Trp Phe Trp Lys Ser Leu Thr Phe
            20                  25                  30

Asp Lys Glu Val Lys Val Phe Glu Phe Phe Gly Asp His Gln Glu Ala
        35                  40                  45

Phe Arg Pro Gly Ala Ile Val Ser Pro Trp Arg Leu Lys Ser Gly Asp
        50                  55                  60

Ala Ser Leu Arg Leu Pro Gly Ile Gln Leu Glu Glu Ala Gly Glu Tyr
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45

Arg Cys Glu Val

<210> 58
<211> 68
<212> PRT
<213> Homo sapiens

<400> 58
Cys Glu Ser Ser Gly Phe Tyr Pro Glu Ala Ile Asn Ile Thr Trp Glu
 1   5   10   15

Lys Gln Thr Gln Lys Phe Pro His Pro Ile Glu Ile Ser Glu Asp Val
            20   25   30

Ile Thr Gly Pro Thr Ile Lys Asn Met Asp Gly Thr Phe Asn Val Thr
            35   40   45

Ser Cys Leu Lys Leu Asn Ser Ser Gln Glu Asp Pro Gly Thr Val Tyr
        50   55   60

Gln Cys Val Val
    65

<210> 59
<211> 18
<212> PRT
<213> Homo sapiens

<400> 59
Trp Trp Pro Ile Ser Phe Ile Gly Val Gly Leu Val Leu Leu Ile Val
 1   5   10   15

Leu Ile

<210> 60
<211> 83
<212> PRT
<213> Homo sapiens

<400> 60
Pro Trp Lys Lys Val Arg Gly Ser Lys Ala Lys Phe Ser Pro Val Ser

Trp Ala Ser Lys Lys Leu Leu Glu Gln Leu Leu Pro Thr Leu Gln Ala
                20   25   30

Ser Arg Asp Arg Pro Ala Gly Lys Asp Phe Val Ser Pro Ser Ser Pro
        35   40   45

Ser Gly Val Gly Asn Val Gly Cys Val Pro Ile Gln Phe Pro Ile Thr
        50   55   60

Glu Asp Leu Ala Val Thr Tyr His Leu Thr Ser Val Trp Trp Phe Val
65   70   75   80

Thr Leu Gly

<210> 61
<211> 1402
<212> DNA
<213> Homo sapiens

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caatagcacc tgaatatcag aaccagagaa aggcaagaaa tatgacaaca gtcacaaata 480
ccacaagaaa catttgaaaa ccactttta tccagttttc tcatggccta gatccaacag 540
gaataagtcc cgtgaatcta aatggccaac tttagataaa gggccatttt tcttaattga 600
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<210> 71

<211> 3594
<212> DNA
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49

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<211> 2145
<212> DNA
<213> Homo sapiens

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50

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<210> 73
<211> 715
<212> PRT
<213> Homo sapiens

<400> 73
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Arg Gly Leu Leu Ala Leu Leu Leu Ala Val Ser Ala Pro Leu Arg Leu
                 20                  25                  30

Gln Ala Glu Glu Leu Gly Asp Gly Cys Gly His Leu Val Thr Tyr Gln
             35                  40                  45

Asp Ser Gly Thr Met Thr Ser Lys Asn Tyr Pro Gly Thr Tyr Pro Asn
         50                  55                  60

His Thr Val Cys Glu Lys Thr Ile Thr Val Pro Lys Gly Lys Arg Leu
 65                  70                  75                  80

Ile Leu Arg Leu Gly Asp Leu Asp Ile Glu Ser Gln Thr Cys Ala Ser
                 85                  90                  95

Asp Tyr Leu Leu Phe Thr Ser Ser Asp Gln Tyr Gly Pro Tyr Cys
                100                 105                 110

Gly Ser Met Thr Val Pro Lys Glu Leu Leu Leu Asn Thr Ser Glu Val
            115                 120                 125

Thr Val Arg Phe Glu Ser Gly Ser His Ile Ser Gly Arg Gly Phe Leu
        130                 135                 140
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51

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Leu Thr Tyr Ala Ser Ser Asp His Pro Asp Leu Ile Thr Cys Leu Glu
145             150             155             160

Arg Ala Ser His Tyr Leu Lys Thr Glu Tyr Ser Lys Phe Cys Pro Ala
            165             170             175

Gly Cys Arg Asp Val Ala Gly Asp Ile Ser Gly Asn Met Val Asp Gly
            180             185             190

Tyr Arg Asp Thr Ser Leu Leu Cys Lys Ala Ala Ile His Ala Gly Ile
            195             200             205

Ile Ala Asp Glu Leu Gly Gly Gln Ile Ser Val Leu Gln Arg Lys Gly
            210             215             220

Ile Ser Arg Tyr Glu Gly Ile Leu Ala Asn Gly Val Leu Ser Arg Asp
225             230             235             240

Gly Ser Leu Ser Asp Lys Arg Phe Leu Phe Thr Ser Asn Gly Cys Ser
            245             250             255

Arg Ser Leu Ser Phe Glu Pro Asp Gly Gln Ile Arg Ala Ser Ser Ser
            260             265             270

Trp Gln Ser Val Asn Glu Ser Gly Asp Gln Val His Trp Ser Pro Gly
            275             280             285

Gln Ala Arg Leu Gln Asp Gln Gly Pro Ser Trp Ala Ser Gly Asp Ser
            290             295             300

Ser Asn Asn His Lys Pro Arg Glu Trp Leu Glu Ile Asp Leu Gly Glu
305             310             315             320

Lys Lys Lys Ile Thr Gly Ile Arg Thr Thr Gly Ser Thr Gln Ser Asn
            325             330             335

Phe Asn Phe Tyr Val Lys Ser Phe Val Met Asn Phe Lys Asn Asn Asn
            340             345             350

Ser Lys Trp Lys Thr Tyr Lys Gly Ile Val Asn Asn Glu Glu Lys Val
            355             360             365

Phe Gln Gly Asn Ser Asn Phe Arg Asp Pro Val Gln Asn Asn Phe Ile
            370             375             380

Pro Pro Ile Val Ala Arg Tyr Val Arg Val Val Pro Gln Thr Trp His
385             390             395             400
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52

Gln Arg Ile Ala Leu Lys Val Glu Leu Ile Gly Cys Gln Ile Thr Gln
                405   410   415

Gly Asn Asp Ser Leu Val Trp Arg Lys Thr Ser Gln Ser Thr Ser Val
                420   425   430

Ser Thr Lys Lys Glu Asp Glu Thr Ile Thr Arg Pro Ile Pro Ser Glu
                435   440   445

Glu Thr Ser Thr Gly Ile Asn Ile Thr Thr Val Ala Ile Pro Leu Val
                450   455   460

Leu Leu Val Val Leu Val Phe Ala Gly Met Gly Ile Phe Ala Ala Phe
465   470   475   480

Arg Lys Lys Lys Lys Lys Gly Ser Pro Tyr Gly Ser Ala Glu Ala Gln
                485   490   495

Lys Thr Asp Cys Trp Lys Gln Ile Lys Tyr Pro Phe Ala Arg His Gln
                500   505   510

Ser Ala Glu Phe Thr Ile Ser Tyr Asp Asn Glu Lys Glu Met Thr Gln
                515   520   525

Lys Leu Asp Leu Ile Thr Ser Asp Met Ala Asp Tyr Gln Gln Pro Leu
                530   535   540

Met Ile Gly Thr Gly Thr Val Thr Arg Lys Gly Ser Thr Phe Arg Pro
545   550   555   560

Met Asp Thr Asp Ala Glu Glu Ala Gly Val Ser Thr Asp Ala Gly Gly
                565   570   575

His Tyr Asp Cys Pro Gln Arg Ala Gly Arg His Glu Tyr Ala Leu Pro
                580   585   590

Leu Ala Pro Pro Glu Pro Glu Tyr Ala Thr Pro Ile Val Glu Arg His
                595   600   605

Val Leu Arg Ala His Thr Phe Ser Ala Gln Ser Gly Tyr Arg Val Pro
                610   615   620

Gly Pro Gln Pro Gly His Lys His Ser Leu Ser Ser Gly Gly Phe Ser
625   630   635   640

Pro Val Ala Gly Val Gly Ala Gln Asp Gly Asp Tyr Gln Arg Pro His
                645   650   655

53

Ser Ala Gln Pro Ala Asp Arg Gly Tyr Asp Arg Pro Lys Ala Val Ser
            660   665   670

Ala Leu Ala Thr Glu Ser Gly His Pro Asp Ser Gln Lys Pro Pro Thr
            675   680   685

His Pro Gly Thr Ser Asp Ser Tyr Ser Ala Pro Arg Asp Cys Leu Thr
            690   695   700

Pro Leu Asn Gln Thr Ala Met Thr Ala Leu Leu
705   710   715

<210> 74
<211> 34
<212> PRT
<213> Homo sapiens

<400> 74
Met Val Pro Gly Ala Arg Gly Gly Gly Ala Leu Ala Arg Ala Ala Gly
 1   5   10   15

Arg Gly Leu Leu Ala Leu Leu Leu Ala Val Ser Ala Pro Leu Arg Leu
            20   25   30

Gln Ala

<210> 75
<211> 681
<212> PRT
<213> Homo sapiens

<400> 75
Glu Glu Leu Gly Asp Gly Cys Gly His Leu Val Thr Tyr Gln Asp Ser
 1   5   10   15

Gly Thr Met Thr Ser Lys Asn Tyr Pro Gly Thr Tyr Pro Asn His Thr
            20   25   30

Val Cys Glu Lys Thr Ile Thr Val Pro Lys Gly Lys Arg Leu Ile Leu
            35   40   45

Arg Leu Gly Asp Leu Asp Ile Glu Ser Gln Thr Cys Ala Ser Asp Tyr
        50   55   60

Leu Leu Phe Thr Ser Ser Ser Asp Gln Tyr Gly Pro Tyr Cys Gly Ser

54

Met Thr Val Pro Lys Glu Leu Leu Leu Asn Thr Ser Glu Val Thr Val
            85   90   95

Arg Phe Glu Ser Gly Ser His Ile Ser Gly Arg Gly Phe Leu Leu Thr
            100   105   110

Tyr Ala Ser Ser Asp His Pro Asp Leu Ile Thr Cys Leu Glu Arg Ala
            115   120   125

Ser His Tyr Leu Lys Thr Glu Tyr Ser Lys Phe Cys Pro Ala Gly Cys
            130   135   140

Arg Asp Val Ala Gly Asp Ile Ser Gly Asn Met Val Asp Gly Tyr Arg
145   150   155   160

Asp Thr Ser Leu Leu Cys Lys Ala Ala Ile His Ala Gly Ile Ile Ala
            165   170   175

Asp Glu Leu Gly Gly Gln Ile Ser Val Leu Gln Arg Lys Gly Ile Ser
            180   185   190

Arg Tyr Glu Gly Ile Leu Ala Asn Gly Val Leu Ser Arg Asp Gly Ser
            195   200   205

Leu Ser Asp Lys Arg Phe Leu Phe Thr Ser Asn Gly Cys Ser Arg Ser
            210   215   220

Leu Ser Phe Glu Pro Asp Gly Gln Ile Arg Ala Ser Ser Ser Trp Gln
225   230   235   240

Ser Val Asn Glu Ser Gly Asp Gln Val His Trp Ser Pro Gly Gln Ala
            245   250   255

Arg Leu Gln Asp Gln Gly Pro Ser Trp Ala Ser Gly Asp Ser Ser Asn
            260   265   270

Asn His Lys Pro Arg Glu Trp Leu Glu Ile Asp Leu Gly Glu Lys Lys
            275   280   285

Lys Ile Thr Gly Ile Arg Thr Thr Gly Ser Thr Gln Ser Asn Phe Asn
            290   295   300

Phe Tyr Val Lys Ser Phe Val Met Asn Phe Lys Asn Asn Asn Ser Lys
305   310   315   320

Trp Lys Thr Tyr Lys Gly Ile Val Asn Asn Glu Glu Lys Val Phe Gln

Gly Asn Ser Asn Phe Arg Asp Pro Val Gln Asn Asn Phe Ile Pro Pro
        340   345   350

Ile Val Ala Arg Tyr Val Arg Val Val Pro Gln Thr Trp His Gln Arg
        355   360   365

Ile Ala Leu Lys Val Glu Leu Ile Gly Cys Gln Ile Thr Gln Gly Asn
    370   375   380

Asp Ser Leu Val Trp Arg Lys Thr Ser Gln Ser Thr Ser Val Ser Thr
385   390   395   400

Lys Lys Glu Asp Glu Thr Ile Thr Arg Pro Ile Pro Ser Glu Glu Thr
            405   410   415

Ser Thr Gly Ile Asn Ile Thr Thr Val Ala Ile Pro Leu Val Leu Leu
            420   425   430

Val Val Leu Val Phe Ala Gly Met Gly Ile Phe Ala Ala Phe Arg Lys
        435   440   445

Lys Lys Lys Lys Gly Ser Pro Tyr Gly Ser Ala Glu Ala Gln Lys Thr
    450   455   460

Asp Cys Trp Lys Gln Ile Lys Tyr Pro Phe Ala Arg His Gln Ser Ala
465   470   475   480

Glu Phe Thr Ile Ser Tyr Asp Asn Glu Lys Glu Met Thr Gln Lys Leu
            485   490   495

Asp Leu Ile Thr Ser Asp Met Ala Asp Tyr Gln Gln Pro Leu Met Ile
        500   505   510

Gly Thr Gly Thr Val Thr Arg Lys Gly Ser Thr Phe Arg Pro Met Asp
        515   520   525

Thr Asp Ala Glu Glu Ala Gly Val Ser Thr Asp Ala Gly Gly His Tyr
    530   535   540

Asp Cys Pro Gln Arg Ala Gly Arg His Glu Tyr Ala Leu Pro Leu Ala
545   550   555   560

Pro Pro Glu Pro Glu Tyr Ala Thr Pro Ile Val Glu Arg His Val Leu
            565   570   575

Arg Ala His Thr Phe Ser Ala Gln Ser Gly Tyr Arg Val Pro Gly Pro

56

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                580                      585                      590

Gln Pro Gly His Lys His Ser Leu Ser Ser Gly Gly Phe Ser Pro Val
        595                  600                  605

Ala Gly Val Gly Ala Gln Asp Gly Asp Tyr Gln Arg Pro His Ser Ala
        610                  615                  620

Gln Pro Ala Asp Arg Gly Tyr Asp Arg Pro Lys Ala Val Ser Ala Leu
625                  630                  635                  640

Ala Thr Glu Ser Gly His Pro Asp Ser Gln Lys Pro Pro Thr His Pro
                645                  650                  655

Gly Thr Ser Asp Ser Tyr Ser Ala Pro Arg Asp Cys Leu Thr Pro Leu
            660                  665                  670

Asn Gln Thr Ala Met Thr Ala Leu Leu
            675                  680


<210> 76
<211> 421
<212> PRT
<213> Homo sapiens

<400> 76
Glu Glu Leu Gly Asp Gly Cys Gly His Leu Val Thr Tyr Gln Asp Ser
  1               5                  10                  15

Gly Thr Met Thr Ser Lys Asn Tyr Pro Gly Thr Tyr Pro Asn His Thr
            20                  25                  30

Val Cys Glu Lys Thr Ile Thr Val Pro Lys Gly Lys Arg Leu Ile Leu
        35                  40                  45

Arg Leu Gly Asp Leu Asp Ile Glu Ser Gln Thr Cys Ala Ser Asp Tyr
    50                  55                  60

Leu Leu Phe Thr Ser Ser Ser Asp Gln Tyr Gly Pro Tyr Cys Gly Ser
65                  70                  75                  80

Met Thr Val Pro Lys Glu Leu Leu Leu Asn Thr Ser Glu Val Thr Val
                85                  90                  95

Arg Phe Glu Ser Gly Ser His Ile Ser Gly Arg Gly Phe Leu Leu Thr
            100                 105                 110
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57

Tyr Ala Ser Ser Asp His Pro Asp Leu Ile Thr Cys Leu Glu Arg Ala
        115   120   125

Ser His Tyr Leu Lys Thr Glu Tyr Ser Lys Phe Cys Pro Ala Gly Cys
        130   135   140

Arg Asp Val Ala Gly Asp Ile Ser Gly Asn Met Val Asp Gly Tyr Arg
145   150   155   160

Asp Thr Ser Leu Leu Cys Lys Ala Ala Ile His Ala Gly Ile Ile Ala
                165   170   175

Asp Glu Leu Gly Gly Gln Ile Ser Val Leu Gln Arg Lys Gly Ile Ser
                180   185   190

Arg Tyr Glu Gly Ile Leu Ala Asn Gly Val Leu Ser Arg Asp Gly Ser
        195   200   205

Leu Ser Asp Lys Arg Phe Leu Phe Thr Ser Asn Gly Cys Ser Arg Ser
        210   215   220

Leu Ser Phe Glu Pro Asp Gly Gln Ile Arg Ala Ser Ser Ser Trp Gln
225   230   235   240

Ser Val Asn Glu Ser Gly Asp Gln Val His Trp Ser Pro Gly Gln Ala
                245   250   255

Arg Leu Gln Asp Gln Gly Pro Ser Trp Ala Ser Gly Asp Ser Ser Asn
                260   265   270

Asn His Lys Pro Arg Glu Trp Leu Glu Ile Asp Leu Gly Glu Lys Lys
        275   280   285

Lys Ile Thr Gly Ile Arg Thr Thr Gly Ser Thr Gln Ser Asn Phe Asn
        290   295   300

Phe Tyr Val Lys Ser Phe Val Met Asn Phe Lys Asn Asn Asn Ser Lys
305   310   315   320

Trp Lys Thr Tyr Lys Gly Ile Val Asn Asn Glu Glu Lys Val Phe Gln
                325   330   335

Gly Asn Ser Asn Phe Arg Asp Pro Val Gln Asn Asn Phe Ile Pro Pro
                340   345   350

Ile Val Ala Arg Tyr Val Arg Val Val Pro Gln Thr Trp His Gln Arg
        355   360   365

58

Ile Ala Leu Lys Val Glu Leu Ile Gly Cys Gln Ile Thr Gln Gly Asn
    370   375   380

Asp Ser Leu Val Trp Arg Lys Thr Ser Gln Ser Thr Ser Val Ser Thr
385   390   395   400

Lys Lys Glu Asp Glu Thr Ile Thr Arg Pro Ile Pro Ser Glu Glu Thr
                405   410   415

Ser Thr Gly Ile Asn
            420

<210> 77
<211> 25
<212> PRT
<213> Homo sapiens

<400> 77
Ile Thr Thr Val Ala Ile Pro Leu Val Leu Leu Val Val Leu Val Phe
    1   5   10   15

Ala Gly Met Gly Ile Phe Ala Ala Phe
                20   25

<210> 78
<211> 235
<212> PRT
<213> Homo sapiens

<400> 78
Arg Lys Lys Lys Lys Lys Gly Ser Pro Tyr Gly Ser Ala Glu Ala Gln
    1   5   10   15

Lys Thr Asp Cys Trp Lys Gln Ile Lys Tyr Pro Phe Ala Arg His Gln
                20   25   30

Ser Ala Glu Phe Thr Ile Ser Tyr Asp Asn Glu Lys Glu Met Thr Gln
            35   40   45

Lys Leu Asp Leu Ile Thr Ser Asp Met Ala Asp Tyr Gln Gln Pro Leu
        50   55   60

Met Ile Gly Thr Gly Thr Val Thr Arg Lys Gly Ser Thr Phe Arg Pro
    65   70   75   80

Met Asp Thr Asp Ala Glu Glu Ala Gly Val Ser Thr Asp Ala Gly Gly

59

His Tyr Asp Cys Pro Gln Arg Ala Gly Arg His Glu Tyr Ala Leu Pro
            100   105   110

Leu Ala Pro Pro Glu Pro Glu Tyr Ala Thr Pro Ile Val Glu Arg His
            115   120   125

Val Leu Arg Ala His Thr Phe Ser Ala Gln Ser Gly Tyr Arg Val Pro
        130   135   140

Gly Pro Gln Pro Gly His Lys His Ser Leu Ser Ser Gly Gly Phe Ser
145   150   155   160

Pro Val Ala Gly Val Gly Ala Gln Asp Gly Asp Tyr Gln Arg Pro His
                165   170   175

Ser Ala Gln Pro Ala Asp Arg Gly Tyr Asp Arg Pro Lys Ala Val Ser
            180   185   190

Ala Leu Ala Thr Glu Ser Gly His Pro Asp Ser Gln Lys Pro Pro Thr
            195   200   205

His Pro Gly Thr Ser Asp Ser Tyr Ser Ala Pro Arg Asp Cys Leu Thr
        210   215   220

Pro Leu Asn Gln Thr Ala Met Thr Ala Leu Leu
225   .   230   235

<210> 79
<400> 79
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<210> 80
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<210> 81
<211> 4074
<212> DNA
<213> Homo sapiens

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<213> Homo sapiens

<400> 82
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<212> PRT
<213> Homo sapiens

<400> 83
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Val Val Gly Met Thr Leu Phe Leu Leu Tyr Phe Pro Gln Ile Phe Asn
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62

Lys Ser Asn Asp Gly Phe Thr Thr Thr Arg Ser Tyr Gly Thr Val Ser
        35   40   45

Gln Ile Phe Gly Ser Ser Ser Pro Ser Pro Asn Gly Phe Ile Thr Thr
        50   55   60

Arg Ser Tyr Gly Thr Val Cys Pro Lys Asp Trp Glu Phe Tyr Gln Ala
65   70   75   80

Arg Cys Phe Phe Leu Ser Thr Ser Glu Ser Ser Trp Asn Glu Ser Arg
                85   90   95

Asp Phe Cys Lys Gly Lys Gly Ser Thr Leu Ala Ile Val Asn Thr Pro
                100   105   110

Glu Lys Leu Lys Phe Leu Gln Asp Ile Thr Asp Ala Glu Lys Tyr Phe
                115   120   125

Ile Gly Leu Ile Tyr His Arg Glu Glu Lys Arg Trp Arg Trp Ile Asn
        130   135   140

Asn Ser Val Phe Asn Gly Asn Val Thr Asn Gln Asn Gln Asn Phe Asn
145   150   155   160

Cys Ala Thr Ile Gly Leu Thr Lys Thr Phe Asp Ala Ala Ser Cys Asp
                165   170   175

Ile Ser Tyr Arg Arg Ile Cys Glu Lys Asn Ala Lys
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<210> 84
<211> 19
<212> PRT
<213> Homo sapiens

<400> 84
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Leu Leu Tyr

<210> 85
<211> 162

63

<212> PRT
<213> Homo sapiens

<400> 85
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Asn Gly Phe Ile Thr Thr Arg Ser Tyr Gly Thr Val Cys Pro Lys Asp
        35   40   45

Trp Glu Phe Tyr Gln Ala Arg Cys Phe Phe Leu Ser Thr Ser Glu Ser
    50   55   60

Ser Trp Asn Glu Ser Arg Asp Phe Cys Lys Gly Lys Gly Ser Thr Leu
65   70   75   80

Ala Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln Asp Ile Thr
                85   90   95

Asp Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg Glu Glu Lys
            100   105   110

Arg Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Asn Val Thr Asn
            115   120   125

Gln Asn Gln Asn Phe Asn Cys Ala Thr Ile Gly Leu Thr Lys Thr Phe
        130   135   140

Asp Ala Ala Ser Cys Asp Ile Ser Tyr Arg Arg Ile Cys Glu Lys Asn
145   150   155   160

Ala Lys

<210> 86
<211> 187
<212> PRT
<213> Homo sapiens

<400> 86
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Val Val Gly Met Thr Leu Phe Leu Leu Tyr Phe Pro Gln Ile Phe Asn

64

Lys Ser Asn Asp Gly Phe Thr Thr Thr Arg Ser Tyr Gly Thr Val Ser
        35   40   45

Gln Ile Phe Gly Ser Ser Ser Pro Ser Pro Asn Gly Phe Ile Thr Thr
     50   55   60

Arg Ser Tyr Gly Thr Val Cys Pro Lys Asp Trp Glu Phe Tyr Gln Ala
65   70   75   80

Arg Cys Phe Phe Leu Ser Thr Ser Glu Ser Ser Trp Asn Glu Ser Arg
                85   90   95

Asp Phe Cys Lys Gly Lys Gly Ser Thr Leu Ala Ile Val Asn Thr Pro
                100   105   110

Glu Lys Leu Phe Leu Gln Asp Ile Thr Asp Ala Glu Lys Tyr Phe Ile
                115   120   125

Gly Leu Ile Tyr His Arg Glu Glu Lys Arg Trp Arg Trp Ile Asn Asn
        130   135   140

Ser Val Phe Asn Gly Asn Val Thr Asn Gln Asn Gln Asn Phe Asn Cys
145   150   155   160

Ala Thr Ile Gly Leu Thr Lys Thr Phe Asp Ala Ala Ser Cys Asp Ile
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Ser Tyr Arg Arg Ile Cys Glu Lys Asn Ala Lys
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<210> 87
<400> 87
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<210> 88
<211> 190
<212> PRT
<213> Homo sapiens

<400> 88
Met Asn Trp His Met Ile Ile Ser Gly Leu Ile Val Val Val Ile Lys
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Val Val Gly Met Thr Phe Phe Leu Leu Tyr Phe Pro Gln Val Phe Gly

Lys Ser Asn Asp Gly Phe Val Pro Thr Glu Ser Tyr Gly Thr Thr Ser
        35   40   45

Val Gln Asn Val Ser Gln Ile Phe Gly Arg Asn Asp Glu Ser Thr Met
        50   55   60

Pro Thr Arg Ser Tyr Gly Thr Val Cys Pro Arg Asn Trp Asp Phe His
65   70   75   80

Gln Gly Lys Cys Phe Phe Phe Ser Phe Ser Glu Ser Pro Trp Lys Asp
                85   90   95

Ser Met Asp Tyr Cys Ala Thr Gln Gly Ser Thr Leu Ala Ile Val Asn
                100   105   110

Thr Pro Glu Lys Leu Lys Tyr Leu Gln Asp Ile Ala Gly Ile Glu Asn
                115   120   125

Tyr Phe Ile Gly Leu Val Arg Gln Pro Gly Glu Lys Lys Trp Arg Trp
        130   135   140

Ile Asn Asn Ser Val Phe Asn Gly Asn Val Thr Asn Gln Asp Gln Asn
145   150   155   160

Phe Asp Cys Val Thr Ile Gly Leu Thr Lys Thr Tyr Asp Ala Ala Ser
                165   170   175

Cys Glu Val Ser Tyr Arg Trp Ile Cys Glu Met Asn Ala Lys
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<210> 89
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<210> 90
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<212> DNA
<213> Homo sapiens

<400> 91

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67

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<213> Homo sapiens

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<211> 178
<212> PRT
<213> Homo sapiens

<400> 93
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1               5                   10                  15
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68

Val Val Gly Met Thr Leu Phe Leu Leu Tyr Phe Pro Gln Ile Phe Asn
            20   25   30

Lys Ser Asn Asp Gly Phe Thr Thr Thr Arg Ser Tyr Gly Thr Val Ser
            35   40   45

Gln Ile Phe Gly Ser Ser Ser Pro Ser Pro Asn Gly Phe Ile Thr Thr
            50   55   60

Arg Ser Tyr Gly Thr Val Cys Pro Lys Asp Trp Glu Phe Tyr Gln Ala
65   70   75   80

Arg Cys Phe Phe Leu Ser Thr Ser Glu Ser Ser Trp Asn Glu Ser Arg
                  85   90   95

Asp Phe Cys Lys Gly Lys Gly Ser Thr Leu Ala Ile Val Asn Thr Pro
                  100   105   110

Glu Lys Leu Lys Phe Leu Gln Asp Ile Thr Asp Ala Glu Lys Tyr Phe
            115   120   125

Ile Gly Leu Ile Tyr His Arg Glu Glu Lys Arg Trp Arg Trp Ile Asn
            130   135   140

Asn Ser Val Phe Asn Gly Lys Tyr Val Asn Met Pro Gln Phe Pro Gly
145   150   155   160

Asp Leu Gly Leu Leu Gln Lys Thr Lys Pro Glu Ile Ala Gly Phe Thr
                  165   170   175

Leu Glu

<210> 94
<211> 21
<212> PRT
<213> Homo sapiens

<400> 94
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Phe Leu Leu Tyr Phe
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<210> 95

69

<211> 151
<212> PRT
<213> Homo sapiens

<400> 95
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Tyr Gly Thr Val Ser Gln Ile Phe Gly Ser Ser Ser Pro Ser Pro Asn
            20   25   30

Gly Phe Ile Thr Thr Arg Ser Tyr Gly Thr Val Cys Pro Lys Asp Trp
        35   40   45

Glu Phe Tyr Gln Ala Arg Cys Phe Phe Leu Ser Thr Ser Glu Ser Ser
    50   55   60

Trp Asn Glu Ser Arg Asp Phe Cys Lys Gly Lys Gly Ser Thr Leu Ala
65   70   75   80

Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln Asp Ile Thr Asp
                85   90   95

Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg Glu Glu Lys Arg
            100   105   110

Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Lys Tyr Val Asn Met
            115   120   125

Pro Gln Phe Pro Gly Asp Leu Gly Leu Leu Gln Lys Thr Lys Pro Glu
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71

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72

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73

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Val Phe Asn Gly Asn Val Thr Asn Gln Asn Gln Asn Phe Asn Cys Ala
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74

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                20   25   30

Lys Ser Asn Asp Gly Phe Thr Thr Thr Arg Ser Tyr Gly Thr Val Cys
            35   40   45

Pro Lys Asp Trp Glu Phe Tyr Gln Ala Arg Cys Phe Phe Leu Ser Thr
        50   55   60

Ser Glu Ser Ser Trp Asn Glu Ser Arg Asp Phe Cys Lys Gly Lys Gly
65   70   75   80

Ser Thr Leu Ala Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln
                85   90   95

Asp Ile Thr Asp Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg
                100   105   110

Glu Glu Lys Arg Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Lys
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76

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<212> PRT
<213> Homo sapiens

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Phe Phe Leu Ser Thr Ser Glu Ser Ser Trp Asn Glu Ser Arg Asp Phe
            35   40   45

Cys Lys Gly Lys Gly Ser Thr Leu Ala Ile Val Asn Thr Pro Glu Lys
    50   55   60

Leu Lys Phe Leu Gln Asp Ile Thr Asp Ala Glu Lys Tyr Phe Ile Gly
65   70   75   80

Leu Ile Tyr His Arg Glu Glu Lys Arg Trp Arg Trp Ile Asn Asn Ser
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Val Phe Asn Gly Lys Tyr Val Asn Met Pro Gln Phe Pro Gly Asp Leu
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78

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<210> 107
<211> 435
<212> DNA
<213> Homo sapiens

<400> 107
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gctgagaagt attttattgg cttaatttac catcgtgaag agaaaaggtg gcgttggatc 300
aacaactctg tgttcaatgg caatgttacc aatcagaatc agaatttcaa ctgtgcgacc 360
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<210> 108
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79

<211> 145
<212> PRT
<213> Homo sapiens

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1   5   10   15

Val Val Gly Met Thr Leu Phe Leu Leu Tyr Phe Cys Pro Lys Asp Trp
            20   25   30

Glu Phe Tyr Gln Ala Arg Cys Phe Phe Leu Ser Thr Ser Glu Ser Ser
        35   40   45

Trp Asn Glu Ser Arg Asp Phe Cys Lys Gly Lys Gly Ser Thr Leu Ala
    50   55   60

Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln Asp Ile Thr Asp
65   70   75   80

Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg Glu Glu Lys Arg
                85   90   95

Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Asn Val Thr Asn Gln
            100   105   110

Asn Gln Asn Phe Asn Cys Ala Thr Ile Gly Leu Thr Lys Thr Phe Asp
        115   120   125

Ala Ala Ser Cys Asp Ile Ser Tyr Arg Arg Ile Cys Glu Lys Asn Ala
    130   135   140

Lys
145

<210> 109
<211> 22
<212> PRT
<213> Homo sapiens

<400> 109
Ile Ser Gly Leu Ile Val Val Val Leu Lys Val Val Gly Met Thr Leu
1   5   10   15

Phe Leu Leu Tyr Phe Cys
                20

80

<210> 110
<211> 117
<212> PRT
<213> Homo sapiens

<400> 110
Pro Lys Asp Trp Glu Phe Tyr Gln Ala Arg Cys Phe Phe Leu Ser Thr
 1   5   10   15

Ser Glu Ser Ser Trp Asn Glu Ser Arg Asp Phe Cys Lys Gly Lys Gly
            20   25   30

Ser Thr Leu Ala Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln
        35   40   45

Asp Ile Thr Asp Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg
    50   55   60

Glu Glu Lys Arg Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Asn
65   70   75   80

Val Thr Asn Gln Asn Gln Asn Phe Asn Cys Ala Thr Ile Gly Leu Thr
            85   90   95

Lys Thr Phe Asp Ala Ala Ser Cys Asp Ile Ser Tyr Arg Arg Ile Cys
            100   105   110

Glu Lys Asn Ala Lys
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<211> 3898
<212> DNA
<213> Homo sapiens

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gcttaattta ccatcgtgaa gagaaaggt ggcgttggat caacaactct gtgttcaatg 480
gcaagtacgt gaacatgcca cagtttcctg gggatcttgg tttgcttcaa aagaccaaac 540
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81

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82

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<210> 112
<211> 405
<212> DNA
<213> Homo sapiens

<400> 112
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ttcttatcca cttctgaatc atcttggaat gaaagcaggg acttttgcaa aggaaaagga 180
tccacattgg caattgtcaa cacgccagag aaactgaagt tcttcagga cataactgat 240
gctgagaagt atttattgg cttaatttac catcgtgaag agaaaggtg gcgttggatc 300
aacaactctg tgttcaatgg caagtacgtg aacatgccac agtttcctgg ggatcttggt 360
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<210> 113
<211> 135
<212> PRT
<213> Homo sapiens

<400> 113
Met Asn Trp His Met Ile Ile Ser Gly Leu Ile Val Val Val Leu Lys
1   5   10   15

Val Val Gly Met Thr Leu Phe Leu Leu Tyr Phe Cys Pro Lys Asp Trp
                20   25   30

Glu Phe Tyr Gln Ala Arg Cys Phe Phe Leu Ser Thr Ser Glu Ser Ser
            35   40   45

Trp Asn Glu Ser Arg Asp Phe Cys Lys Gly Lys Gly Ser Thr Leu Ala
        50   55   60

Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln Asp Ile Thr Asp
65   70   75   80

Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg Glu Glu Lys Arg
                85   90   95

83

Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Lys Tyr Val Asn Met
          100   105   110

Pro Gln Phe Pro Gly Asp Leu Gly Leu Leu Gln Lys Thr Lys Pro Glu
          115   120   125

Ile Ala Gly Phe Thr Leu Glu
          130   135

<210> 114
<211> 22
<212> PRT
<213> Homo sapiens

<400> 114
Ile Ser Gly Leu Ile Val Val Val Leu Lys Val Val Gly Met Thr Leu
  1   5   10   15

Phe Leu Leu Tyr Phe Cys
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<210> 115
<211> 107
<212> PRT
<213> Homo sapiens

<400> 115
Pro Lys Asp Trp Glu Phe Tyr Gln Ala Arg Cys Phe Phe Leu Ser Thr
  1   5   10   15

Ser Glu Ser Ser Trp Asn Glu Ser Arg Asp Phe Cys Lys Gly Lys Gly
              20   25   30

Ser Thr Leu Ala Ile Val Asn Thr Pro Glu Lys Leu Lys Phe Leu Gln
          35   40   45

Asp Ile Thr Asp Ala Glu Lys Tyr Phe Ile Gly Leu Ile Tyr His Arg
          50   55   60

Glu Glu Lys Arg Trp Arg Trp Ile Asn Asn Ser Val Phe Asn Gly Lys
  65   70   75   80

Tyr Val Asn Met Pro Gln Phe Pro Gly Asp Leu Gly Leu Leu Gln Lys
                  85   90   95

Thr Lys Pro Glu Ile Ala Gly Phe Thr Leu Glu

                              84

<210> 116
<400> 116
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<210> 117
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<210> 118
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<210> 119
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<210> 120
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<210> 121
<211> 1909
<212> DNA
<213> Homo sapiens

<400> 121
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tttttaactt tactataaag ccatgcaaat gacaaaaatc tatattactt tctcaaaatg 720
gaccccaaag aaactttgat ttactgttct taactgccta atcttaatta caggaactgt 780
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<210> 122
<211> 645
<212> DNA
<213> Homo sapiens


<400> 122
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tggatgaatt gcgtgaggca ggctaacatc aggatgcagt gcaaaatcta tgattccctg 180
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acggcactgg tgctgattgt tggaggagct ctgttctgct gcgttttttg ttgcaacgaa 540
aagagcagta gctacagata ctcgatacct tcccatcgca caacccaaaa aagttatcac 600
accggaaaga agtcaccgag cgtctactcc agaagtcagt atgtg             645


<210> 123
<211> 215
<212> PRT
<213> Homo sapiens

<400> 123
Leu Phe Leu Gly Gly Val Gly Met Val Gly Thr Val Ala Val Thr Val
 1               5                   10                  15
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Met Pro Gln Trp Arg Val Ser Ala Phe Ile Glu Asn Asn Ile Val Val
        20   25   30

Phe Glu Asn Phe Trp Glu Gly Leu Trp Met Asn Cys Val Arg Gln Ala
        35   40   45

Asn Ile Arg Met Gln Cys Lys Ile Tyr Asp Ser Leu Leu Ala Leu Ser
     50   55   60

Pro Asp Leu Gln Ala Ala Arg Gly Leu Met Cys Ala Ala Ser Val Met
 65   70   75   80

Ser Phe Leu Ala Phe Met Met Ala Ile Leu Gly Met Lys Cys Thr Arg
                85   90   95

Cys Thr Gly Asp Asn Glu Lys Val Lys Ala His Ile Leu Leu Thr Ala
            100   105   110

Gly Ile Ile Phe Ile Ile Thr Gly Met Val Val Leu Ile Pro Val Ser
        115   120   125

Trp Val Ala Asn Ala Ile Ile Arg Asp Phe Tyr Asn Ser Ile Val Asn
    130   135   140

Val Ala Gln Lys Arg Glu Leu Gly Glu Ala Leu Tyr Leu Gly Trp Thr
145   150   155   160

Thr Ala Leu Val Leu Ile Val Gly Gly Ala Leu Phe Cys Cys Val Phe
                165   170   175

Cys Cys Asn Glu Lys Ser Ser Ser Tyr Arg Tyr Ser Ile Pro Ser His
            180   185   190

Arg Thr Thr Gln Lys Ser Tyr His Thr Gly Lys Lys Ser Pro Ser Val
            195   200   205

Tyr Ser Arg Ser Gln Tyr Val
    210   215

<210> 124
<211> 24
<212> PRT
<213> Homo sapiens

<400> 124
Leu Phe Leu Gly Gly Val Gly Met Val Gly Thr Val Ala Val Thr Val
 1   5   10   15

Met Pro Gln Trp Arg Val Ser Ala
          20

<210> 125
<211> 47
<212> PRT
<213> Homo sapiens

<400> 125
Phe Ile Glu Asn Asn Ile Val Val Phe Glu Asn Phe Trp Glu Gly Leu
1   5   10   15

Trp Met Asn Cys Val Arg Gln Ala Asn Ile Arg Met Gln Cys Lys Ile
          20   25   30

Tyr Asp Ser Leu Leu Ala Leu Ser Pro Asp Leu Gln Ala Ala Arg
        35   40   45

<210> 126
<211> 21
<212> PRT
<213> Homo sapiens

<400> 126
Gly Leu Met Cys Ala Ala Ser Val Met Ser Phe Leu Ala Phe Met Met
1   5   10   15

Ala Ile Leu Gly Met
        20

<210> 127
<211> 15
<212> PRT
<213> Homo sapiens

<400> 127
Lys Cys Thr Arg Cys Thr Gly Asp Asn Glu Lys Val Lys Ala His
1   5   10   15

<210> 128
<211> 24
<212> PRT
<213> Homo sapiens

88

<400> 128
Ile Leu Leu Thr Ala Gly Ile Ile Phe Ile Ile Thr Gly Met Val Val
1   5   10   15

Leu Ile Pro Val Ser Trp Val Ala
            20

<210> 129
<211> 22
<212> PRT
<213> Homo sapiens

<400> 129
Asn Ala Ile Ile Arg Asp Phe Tyr Asn Ser Ile Val Asn Val Ala Gln
1   5   10   15

Lys Arg Glu Leu Gly Glu
            20

<210> 130
<211> 25
<212> PRT
<213> Homo sapiens

<400> 130
Ala Leu Tyr Leu Gly Trp Thr Thr Ala Leu Val Leu Ile Val Gly Gly
1   5   10   15

Ala Leu Phe Cys Cys Val Phe Cys Cys
            20   25

<210> 131
<211> 37
<212> PRT
<213> Homo sapiens

<400> 131
Asn Glu Lys Ser Ser Ser Tyr Arg Tyr Ser Ile Pro Ser His Arg Thr
1   5   10   15

Thr Gln Lys Ser Tyr His Thr Gly Lys Lys Ser Pro Ser Val Tyr Ser
            20   25   30

Arg Ser Gln Tyr Val

<210> 132
<211> 225
<212> PRT
<213> Mus sp.

<400> 132
Met Ala Thr Tyr Ala Leu Gln Met Ala Ala Leu Val Leu Gly Gly Val
 1   5   10   15

Gly Met Val Gly Thr Val Ala Val Thr Ile Met Pro Gln Trp Arg Val
            20   25   30

Ser Ala Phe Ile Glu Ser Asn Ile Val Val Phe Glu Asn Arg Trp Glu
            35   40   45

Gly Leu Trp Met Asn Cys Met Arg His Ala Asn Ile Arg Met Gln Cys
        50   55   60

Lys Val Tyr Asp Ser Leu Leu Ala Leu Ser Pro Asp Leu Gln Ala Ser
 65   70   75   80

Arg Gly Leu Met Cys Ala Ala Ser Val Leu Ala Phe Leu Ala Phe Met
                85   90   95

Thr Ala Ile Leu Gly Met Lys Cys Thr Arg Cys Thr Gly Asp Asp Glu
            100   105   110

Asn Val Lys Ser Arg Ile Leu Leu Thr Ala Gly Ile Ile Phe Phe Ile
            115   120   125

Thr Gly Leu Val Val Leu Ile Pro Val Ser Trp Val Ala Asn Ser Ile
            130   135   140

Ile Arg Asp Phe Tyr Asn Pro Leu Val Asp Val Ala Leu Lys Arg Glu
145   150   155   160

Leu Gly Glu Ala Leu Tyr Ile Gly Trp Thr Thr Ala Leu Val Leu Ile
                165   170   175

Ala Gly Gly Ala Leu Phe Cys Cys Val Phe Cys Cys Thr Glu Arg Ser
                180   185   190

Asn Ser Tyr Arg Tyr Ser Val Pro Ser His Arg Thr Thr Gln Arg Ser
            195   200   205

Phe His Ala Glu Lys Arg Ser Pro Ser Ile Tyr Ser Lys Ser Gln Tyr
   210   215   220

Val
225

<210> 133
<211> 678
<212> PRT
<213> Mus sp.

<400> 133
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  1   5   10   15

Thr Thr Cys Ala Ala Ala Thr Gly Gly Cys Thr Gly Cys Ala Cys Thr
            20   25   30

Gly Gly Thr Gly Cys Thr Thr Gly Gly Thr Gly Gly Thr Gly Thr Thr
         35   40   45

Gly Gly Cys Ala Thr Gly Gly Thr Gly Gly Gly Cys Ala Cys Gly Gly
     50   55   60

Thr Gly Gly Cys Thr Gly Thr Gly Ala Cys Thr Ala Thr Cys Ala Thr
  65   70   75   80

Gly Cys Cys Thr Cys Ala Gly Thr Gly Gly Ala Gly Ala Gly Thr Gly
            85   90   95

Thr Cys Thr Gly Cys Cys Thr Thr Cys Ala Thr Cys Gly Ala Ala Ala
            100   105   110

Gly Thr Ala Ala Cys Ala Thr Thr Gly Thr Gly Gly Thr Gly Thr Thr
         115   120   125

Thr Gly Ala Gly Ala Ala Cys Cys Gly Cys Thr Gly Gly Gly Ala Ala
     130   135   140

Gly Gly Cys Thr Thr Gly Thr Gly Gly Ala Thr Gly Ala Ala Thr Thr
145   150   155   160

Gly Thr Ala Thr Gly Ala Gly Gly Cys Ala Thr Gly Cys Cys Ala Ala
            165   170   175

Cys Ala Thr Cys Ala Gly Ala Ala Thr Gly Cys Ala Gly Thr Gly Cys
            180   185   190

91

```
Ala Ala Gly Gly Thr Cys Thr Ala Cys Gly Ala Cys Thr Cys Cys Cys
        195                 200                 205

Thr Gly Cys Thr Gly Gly Cys Thr Cys Thr Thr Ala Gly Thr Cys Cys
    210                 215                 220

Ala Gly Ala Cys Cys Thr Cys Cys Ala Gly Gly Cys Ala Thr Cys Cys
225                 230                 235                 240

Cys Gly Ala Gly Gly Ala Cys Thr Gly Ala Thr Gly Thr Gly Thr Gly
            245                 250                 255

Cys Thr Gly Cys Gly Thr Cys Cys Gly Thr Cys Thr Thr Gly Gly Cys
            260                 265                 270

Thr Thr Thr Cys Thr Thr Gly Gly Cys Thr Thr Thr Cys Ala Thr Gly
        275                 280                 285

Ala Cys Ala Gly Cys Cys Ala Thr Cys Cys Thr Cys Gly Gly Ala Ala
    290                 295                 300

Thr Gly Ala Ala Gly Thr Gly Cys Ala Cys Cys Ala Gly Ala Thr Gly
305                 310                 315                 320

Cys Ala Cys Gly Gly Gly Gly Gly Ala Cys Gly Ala Thr Gly Ala Gly
            325                 330                 335

Ala Ala Cys Gly Thr Gly Ala Ala Gly Ala Gly Cys Cys Gly Cys Ala
            340                 345                 350

Thr Cys Thr Thr Gly Cys Thr Gly Ala Cys Ala Gly Cys Cys Gly Gly
    355                 360                 365

Ala Ala Thr Cys Ala Thr Cys Thr Thr Cys Thr Thr Cys Ala Thr Cys
    370                 375                 380

Ala Cys Cys Gly Gly Cys Thr Thr Gly Gly Thr Thr Gly Thr Gly Cys
385                 390                 395                 400

Thr Cys Ala Thr Cys Cys Cys Thr Gly Thr Cys Ala Gly Cys Thr Gly
            405                 410                 415

Gly Gly Thr Thr Gly Cys Cys Ala Ala Thr Thr Cys Cys Ala Thr Cys
            420                 425                 430

Ala Thr Cys Ala Gly Ala Gly Ala Cys Thr Thr Cys Thr Ala Cys Ala
    435                 440                 445
```

92

Ala Cys Cys Cys Ala Cys Thr Gly Gly Thr Gly Gly Ala Thr Gly Thr
    450   455   460

Gly Gly Cys Cys Cys Thr Ala Ala Ala Gly Cys Gly Cys Gly Ala Gly
465   470   475   480

Cys Thr Gly Gly Gly Ala Gly Ala Ala Gly Cys Cys Cys Thr Cys Thr
            485   490   495

Ala Cys Ala Thr Ala Gly Gly Cys Thr Gly Gly Ala Cys Cys Ala Cys
        500   505   510

Ala Gly Cys Gly Cys Thr Gly Gly Thr Gly Cys Thr Gly Ala Thr Cys
        515   520   525

Gly Cys Thr Gly Gly Ala Gly Gly Ala Gly Cys Ala Cys Thr Gly Thr
    530   535   540

Thr Cys Thr Gly Thr Thr Gly Thr Gly Thr Gly Thr Thr Thr Thr Gly
545   550   555   560

Thr Thr Gly Thr Ala Cys Thr Gly Ala Ala Ala Gly Gly Ala Gly Cys
            565   570   575

Ala Ala Cys Ala Gly Thr Thr Ala Cys Ala Gly Gly Thr Ala Cys Thr
        580   585   590

Cys Gly Gly Thr Ala Cys Cys Ala Thr Cys Cys Cys Ala Thr Cys Gly
    595   600   605

Cys Ala Cys Cys Ala Cys Thr Cys Ala Ala Cys Gly Gly Ala Gly Thr
    610   615   620

Thr Thr Cys Cys Ala Cys Gly Cys Cys Gly Ala Ala Ala Ala Gly Ala
625   630   635   640

Gly Ala Thr Cys Thr Cys Cys Gly Ala Gly Cys Ala Thr Ala Thr Ala
            645   650   655

Cys Thr Cys Cys Ala Ala Ala Ala Gly Thr Cys Ala Gly Thr Ala Thr
        660   665   670

Gly Thr Gly Thr Ala Gly
    675

<210> 134

Ala Cys Cys Cys Ala Cys Thr Gly Gly Thr Gly Gly Ala Thr Gly Thr
    450   455   460

Gly Gly Cys Cys Cys Thr Ala Ala Ala Gly Cys Gly Cys Gly Ala Gly
465   470   475   480

Cys Thr Gly Gly Gly Ala Gly Ala Ala Gly Cys Cys Cys Thr Cys Thr
            485   490   495

Ala Cys Ala Thr Ala Gly Gly Cys Thr Gly Gly Ala Cys Cys Ala Cys
        500   505   510

Ala Gly Cys Gly Cys Thr Gly Gly Thr Gly Cys Thr Gly Ala Thr Cys
        515   520   525

Gly Cys Thr Gly Gly Ala Gly Gly Ala Gly Cys Ala Cys Thr Gly Thr
    530   535   540

Thr Cys Thr Gly Thr Thr Gly Thr Gly Thr Gly Thr Thr Thr Thr Gly
545   550   555   560

Thr Thr Gly Thr Ala Cys Thr Gly Ala Ala Ala Gly Gly Ala Gly Cys
            565   570   575

Ala Ala Cys Ala Gly Thr Thr Ala Cys Ala Gly Gly Thr Ala Cys Thr
        580   585   590

Cys Gly Gly Thr Ala Cys Cys Ala Thr Cys Cys Cys Ala Thr Cys Gly
    595   600   605

Cys Ala Cys Cys Ala Cys Thr Cys Ala Ala Cys Gly Gly Ala Gly Thr
    610   615   620

Thr Thr Cys Cys Ala Cys Gly Cys Cys Gly Ala Ala Ala Ala Gly Ala
625   630   635   640

Gly Ala Thr Cys Thr Cys Cys Gly Ala Gly Cys Ala Thr Ala Thr Ala
            645   650   655

Cys Thr Cys Cys Ala Ala Ala Ala Gly Thr Cys Ala Gly Thr Ala Thr
        660   665   670

Gly Thr Gly Thr Ala Gly
    675

<210> 134

93

Ala Cys Cys Cys Ala Cys Thr Gly Gly Thr Gly Gly Ala Thr Gly Thr
    450   455   460

Gly Gly Cys Cys Cys Thr Ala Ala Ala Gly Cys Gly Cys Gly Ala Gly
465   470   475   480

Cys Thr Gly Gly Gly Ala Gly Ala Ala Gly Cys Cys Cys Thr Cys Thr
            485   490   495

Ala Cys Ala Thr Ala Gly Gly Cys Thr Gly Gly Ala Cys Cys Ala Cys
        500   505   510

Ala Gly Cys Gly Cys Thr Gly Gly Thr Gly Cys Thr Gly Ala Thr Cys
        515   520   525

Gly Cys Thr Gly Gly Ala Gly Gly Ala Gly Cys Ala Cys Thr Gly Thr
    530   535   540

Thr Cys Thr Gly Thr Thr Gly Thr Gly Thr Gly Thr Thr Thr Thr Gly
545   550   555   560

Thr Thr Gly Thr Ala Cys Thr Gly Ala Ala Ala Gly Gly Ala Gly Cys
            565   570   575

Ala Ala Cys Ala Gly Thr Thr Ala Cys Ala Gly Gly Thr Ala Cys Thr
        580   585   590

Cys Gly Gly Thr Ala Cys Cys Ala Thr Cys Cys Cys Ala Thr Cys Gly
    595   600   605

Cys Ala Cys Cys Ala Cys Thr Cys Ala Ala Cys Gly Gly Ala Gly Thr
    610   615   620

Thr Thr Cys Cys Ala Cys Gly Cys Cys Gly Ala Ala Ala Ala Gly Ala
625   630   635   640

Gly Ala Thr Cys Thr Cys Cys Gly Ala Gly Cys Ala Thr Ala Thr Ala
            645   650   655

Cys Thr Cys Cys Ala Ala Ala Ala Gly Thr Cys Ala Gly Thr Ala Thr
        660   665   670

Gly Thr Gly Thr Ala Gly
    675

<210> 134

<211> 1090
<212> PRT
<213> Homo sapiens

<400> 134
Gly Gly Gly Gly Cys Ala Gly Ala Ala Thr Gly Ala Gly Ala Thr Ala
 1   5   10   15

Thr Thr Ala Ala Ala Cys Cys Cys Ala Ala Thr Gly Cys Thr Thr Thr
            20   25   30

Gly Ala Thr Thr Gly Thr Thr Cys Thr Ala Gly Ala Ala Ala Gly Thr
        35   40   45

Ala Thr Ala Gly Thr Ala Ala Thr Thr Thr Gly Thr Thr Thr Thr Cys
    50   55   60

Thr Ala Ala Gly Gly Thr Gly Gly Thr Thr Cys Ala Ala Gly Cys Ala
65   70   75   80

Thr Cys Thr Ala Cys Thr Cys Thr Thr Thr Thr Thr Ala Thr Cys Ala
            85   90   95

Thr Thr Thr Ala Cys Thr Thr Cys Ala Ala Ala Ala Thr Gly Ala Cys
        100   105   110

Ala Thr Thr Gly Cys Thr Ala Ala Ala Gly Ala Cys Thr Gly Cys Ala
        115   120   125

Thr Thr Ala Thr Thr Thr Thr Ala Cys Thr Ala Cys Thr Gly Thr Ala
    130   135   140

Ala Thr Thr Thr Cys Thr Cys Cys Ala Cys Gly Ala Cys Ala Thr Ala
145   150   155   160

Gly Cys Ala Thr Thr Ala Thr Gly Thr Ala Cys Ala Thr Ala Gly Ala
            165   170   175

Thr Gly Ala Gly Thr Gly Thr Ala Ala Cys Ala Thr Thr Thr Ala Thr
        180   185   190

Ala Thr Cys Thr Cys Ala Cys Ala Thr Ala Gly Ala Gly Ala Cys Ala
        195   200   205

Thr Gly Cys Thr Thr Ala Thr Ala Thr Gly Gly Thr Thr Thr Thr Ala
    210   215   220

Thr Thr Thr Ala Ala Ala Ala Thr Gly Ala Ala Ala Thr Gly Cys Cys

94

Ala Gly Thr Cys Cys Ala Thr Thr Ala Cys Ala Cys Thr Gly Ala Ala
                 245   250   255

Thr Ala Ala Ala Thr Ala Gly Ala Ala Cys Thr Cys Ala Ala Cys Thr
             260   265   270

Ala Thr Thr Gly Cys Thr Thr Thr Cys Ala Gly Gly Gly Ala Ala
         275   280   285

Ala Thr Cys Ala Thr Gly Gly Ala Thr Ala Gly Gly Gly Thr Thr Gly
     290   295   300

Ala Ala Gly Ala Ala Gly Gly Thr Thr Ala Cys Thr Ala Thr Thr Ala
305   310   315   320

Ala Thr Thr Gly Thr Thr Thr Thr Ala Ala Ala Ala Cys Ala Gly
                 325   330   335

Cys Thr Thr Ala Gly Gly Gly Ala Thr Thr Ala Ala Thr Gly Thr Cys
             340   345   350

Cys Thr Cys Cys Ala Thr Thr Thr Ala Thr Ala Ala Thr Gly Ala Ala
         355   360   365

Gly Ala Thr Thr Ala Ala Ala Ala Thr Gly Ala Ala Gly Gly Cys Thr
     370   375   380

Thr Thr Ala Ala Thr Cys Ala Gly Cys Ala Thr Thr Gly Thr Ala Ala
385   390   395   400

Ala Gly Gly Ala Ala Ala Thr Thr Gly Ala Ala Thr Gly Gly Cys Thr
                 405   410   415

Thr Thr Cys Thr Gly Ala Thr Ala Thr Gly Cys Thr Gly Thr Thr Thr
             420   425   430

Thr Thr Thr Ala Gly Cys Cys Thr Ala Gly Gly Ala Gly Thr Thr Ala
         435   440   445

Gly Ala Ala Ala Thr Cys Cys Thr Ala Ala Cys Thr Thr Cys Thr Thr
     450   455   460

Thr Ala Thr Cys Cys Thr Cys Thr Thr Cys Thr Cys Cys Cys Ala Gly
465   470   475   480

Ala Gly Gly Cys Thr Thr Thr Thr Thr Thr Thr Thr Thr Cys Thr Thr

```
                    485                      490                        495

Gly Thr Gly Thr Ala Thr Thr Ala Ala Ala Thr Thr Ala Ala Cys Ala
          500                 505                 510

Thr Thr Thr Thr Thr Ala Ala Ala Ala Ala Gly Cys Ala Gly Ala Thr
      515                 520                 525

Ala Thr Thr Thr Thr Gly Thr Cys Ala Ala Gly Gly Gly Gly Cys Thr
      530                 535                 540

Thr Thr Gly Cys Ala Thr Thr Cys Ala Ala Ala Cys Thr Gly Cys Thr
545           550                 555                     560

Thr Thr Thr Cys Cys Ala Gly Gly Gly Cys Thr Ala Thr Ala Cys Thr
              565                 570                     575

Cys Ala Gly Ala Ala Gly Ala Ala Ala Gly Ala Thr Ala Ala Ala Ala
              580                 585                 590

Gly Thr Gly Thr Gly Ala Thr Cys Thr Ala Ala Gly Ala Ala Ala Ala
          595                 600                 605

Ala Gly Thr Gly Ala Thr Gly Gly Thr Thr Thr Thr Ala Gly Gly Ala
      610                 615                 620

Ala Ala Gly Thr Gly Ala Ala Ala Ala Thr Ala Thr Thr Thr Thr Thr
625                 630                 635                     640

Gly Thr Thr Thr Thr Thr Gly Thr Ala Thr Thr Thr Gly Ala Ala Gly
              645                 650                     655

Ala Ala Gly Ala Ala Thr Gly Ala Thr Gly Cys Ala Thr Thr Thr Thr
          660                 665                 670

Gly Ala Cys Ala Ala Gly Ala Ala Ala Thr Cys Ala Thr Ala Thr Ala
      675                 680                 685

Thr Gly Thr Ala Thr Gly Gly Ala Thr Ala Thr Ala Thr Thr Thr Thr
      690                 695                 700

Ala Ala Thr Ala Ala Gly Thr Ala Thr Thr Thr Gly Ala Gly Thr Ala
705                 710                 715                     720

Cys Ala Gly Ala Cys Thr Thr Thr Gly Ala Gly Gly Thr Thr Thr Cys
          725                 730                 735

Ala Thr Cys Ala Ala Thr Ala Thr Ala Ala Ala Thr Ala Ala Ala Ala
```

96

Gly Ala Gly Cys Ala Gly Ala Ala Ala Ala Thr Ala Thr Gly Thr
        755   760   765

Cys Thr Thr Gly Gly Thr Thr Thr Thr Cys Ala Thr Thr Thr Gly Cys
    770   775   780

Thr Thr Ala Cys Cys Ala Ala Ala Ala Ala Ala Cys Ala Ala Cys
785   790   795   800

Ala Ala Cys Ala Ala Ala Ala Ala Ala Ala Gly Thr Thr Gly Thr Cys
            805   810   815

Cys Thr Thr Thr Gly Ala Gly Ala Ala Cys Thr Thr Cys Ala Cys Cys
            820   825   830

Thr Gly Cys Thr Cys Cys Thr Ala Thr Gly Thr Gly Gly Gly Thr Ala
        835   840   845

Cys Cys Thr Gly Ala Gly Thr Cys Ala Ala Ala Ala Thr Thr Gly Thr
    850   855   860

Cys Ala Thr Thr Thr Thr Thr Gly Thr Thr Cys Thr Gly Thr Gly Ala
865   870   875   880

Ala Ala Ala Ala Thr Ala Ala Ala Thr Thr Thr Cys Cys Thr Thr Cys
            885   890   895

Thr Thr Gly Thr Ala Cys Cys Ala Thr Thr Thr Cys Thr Gly Thr Thr
        900   905   910

Thr Ala Gly Thr Thr Thr Thr Ala Cys Thr Ala Ala Ala Ala Thr Cys
    915   920   925

Thr Gly Thr Ala Ala Ala Thr Ala Cys Thr Gly Thr Ala Thr Thr Thr
    930   935   940

Thr Thr Cys Thr Gly Thr Thr Thr Ala Thr Thr Cys Cys Ala Ala Ala
945   950   955   960

Thr Thr Thr Gly Ala Thr Gly Ala Ala Ala Cys Thr Gly Ala Cys Ala
        965   970   975

Ala Thr Cys Cys Ala Ala Thr Thr Thr Gly Ala Ala Ala Gly Thr Thr
    980   985   990

Thr Gly Thr Gly Thr Cys Gly Ala Cys Gly Thr Cys Thr Gly Thr Cys

Thr Ala Gly Cys Thr Thr Ala Ala Ala Thr Gly Ala Ala Thr Gly Thr
   1010   1015   1020

Gly Thr Thr Cys Thr Ala Thr Thr Thr Gly Cys Thr Thr Thr Ala Thr
1025   1030   1035   1040

Ala Cys Ala Thr Thr Thr Ala Thr Ala Thr Thr Ala Ala Thr Ala Ala
              1045   1050   1055

Ala Thr Thr Gly Thr Ala Cys Ala Thr Thr Thr Thr Cys Cys Ala
              1060   1065   1070

Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
              1075   1080   1085

Ala Ala
   1090

<210> 135
<211> 209
<212> PRT
<213> Homo sapiens

<400> 135
Met Ala Ser Met Gly Leu Gln Val Met Gly Ile Ala Leu Ala Val Leu
    1   5   10   15

Gly Trp Leu Ala Val Met Leu Cys Cys Ala Leu Pro Met Trp Arg Val
              20   25   30

Thr Ala Phe Ile Gly Ser Asn Ile Val Thr Ser Gln Thr Ile Trp Glu
              35   40   45

Gly Leu Trp Met Asn Cys Val Val Gln Ser Thr Gly Gln Met Gln Cys
         50   55   60

Lys Val Tyr Asp Ser Leu Leu Ala Leu Pro Gln Asp Leu Gln Ala Ala
   65   70   75   80

Arg Ala Leu Val Ile Ile Ser Ile Ile Val Ala Ala Leu Gly Val Leu
              85   90   95

Leu Ser Val Val Gly Gly Lys Cys Thr Asn Cys Leu Glu Asp Glu Ser
              100   105   110

Ala Lys Ala Lys Thr Met Ile Val Ala Gly Val Val Phe Leu Leu Ala
        115   120   125

Gly Leu Met Val Ile Val Pro Val Ser Trp Thr Ala His Asn Ile Ile
        130   135   140

Gln Asp Phe Tyr Asn Pro Leu Val Ala Ser Gly Gln Lys Arg Glu Met
145   150   155   160

Gly Ala Ser Leu Tyr Val Gly Trp Ala Ala Ser Gly Leu Leu Leu Leu
                165   170   175

Gly Gly Gly Leu Leu Cys Cys Asn Cys Pro Pro Arg Thr Asp Lys Pro
            180   185   190

Tyr Ser Ala Lys Tyr Ser Ala Ala Arg Ser Ala Ala Ala Ser Asn Tyr
        195   200   205

Val

<210> 136
<211> 210
<212> PRT
<213> Mus sp.

<400> 136
Met Ala Ser Met Gly Leu Gln Val Leu Gly Ile Ser Leu Ala Val Leu
    1   5   10   15

Gly Trp Leu Gly Ile Ile Leu Ser Cys Ala Leu Pro Met Trp Arg Val
            20   25   30

Thr Ala Phe Ile Gly Ser Asn Ile Val Thr Ala Gln Thr Ser Trp Glu
            35   40   45

Gly Leu Trp Met Asn Cys Val Val Gln Ser Thr Gly Gln Met Gln Cys
        50   55   60

Lys Met Tyr Asp Ser Met Leu Ala Leu Pro Gln Asp Leu Gln Ala Ala
65   70   75   80

Arg Ala Leu Met Val Ile Ser Ile Ile Val Gly Ala Leu Gly Met Leu
                85   90   95

Leu Ser Val Val Gly Gly Lys Cys Thr Asn Cys Met Glu Asp Glu Thr
            100   105   110

99

```
Val Lys Ala Lys Ile Met Ile Thr Ala Gly Ala Val Phe Ile Val Ala
        115                 120                 125

Ser Met Leu Ile Met Val Pro Val Ser Trp Thr Ala His Asn Val Ile
    130                 135                 140

Arg Asp Phe Tyr Asn Pro Met Val Ala Ser Gly Gln Lys Arg Glu Met
145                 150                 155                 160

Gly Ala Ser Leu Tyr Val Gly Trp Ala Ala Ser Gly Leu Leu Leu Leu
                165                 170                 175

Gly Gly Gly Leu Leu Cys Cys Ser Cys Pro Pro Arg Ser Asn Asp Lys
            180                 185                 190

Pro Tyr Ser Ala Lys Tyr Ser Ala Ala Arg Ser Val Pro Ala Ser Asn
        195                 200                 205

Tyr Val
    210


<210> 137
<211> 248
<212> PRT
<213> Rattus sp.

<400> 137
Met Ser Met Ser Leu Glu Ile Thr Gly Thr Ser Leu Ala Val Leu Gly
  1               5                  10                  15

Trp Leu Cys Thr Ile Val Cys Cys Ala Leu Pro Met Trp Arg Val Ser
            20                  25                  30

Ala Phe Ile Gly Ser Ser Ile Ile Thr Ala Gln Ile Thr Trp Glu Gly
        35                  40                  45

Leu Trp Met Asn Cys Val Gln Ser Thr Gly Gln Met Gln Cys Lys Met
    50                  55                  60

Tyr Asp Ser Leu Leu Ala Leu Pro Gln Asp Leu Gln Ala Ala Arg Ala
 65                  70                  75                  80

Leu Ile Val Val Ser Ile Leu Leu Ala Ala Phe Gly Leu Leu Val Ala
                85                  90                  95

Leu Val Gly Ala Gln Cys Thr Asn Cys Val Gln Asp Glu Thr Ala Lys
```

100

```
                100                      105                      110
    Ala Lys Ile Thr Ile Val Ala Gly Val Leu Phe Leu Leu Ala Ala Val
            115                      120                      125

    Leu Thr Leu Val Pro Val Ser Trp Ser Ala Asn Thr Ile Ile Arg Asp
            130                      135                      140

    Phe Tyr Asn Pro Leu Val Pro Glu Ala Gln Lys Arg Glu Met Gly Thr
    145                      150                      155                      160

    Gly Leu Tyr Val Gly Trp Ala Ala Ala Ala Leu Gln Leu Leu Gly Gly
                    165                      170                      175

    Ala Leu Leu Cys Cys Ser Cys Pro Pro Arg Glu Lys Tyr Ala Pro Thr
                    180                      185                      190

    Lys Ile Leu Tyr Ser Ala Pro Arg Ser Thr Gly Pro Gly Thr Gly Thr
                    195                      200                      205

    Gly Thr Ala Tyr Asp Arg Lys Thr Thr Ser Glu Arg Pro Gly Ala Arg
            210                      215                      220

    Thr Pro His His His His Tyr Gln Pro Ser Met Tyr Pro Thr Arg Pro
    225                      230                      235                      240

    Ala Cys Ser Leu Ala Ser Glu Thr
                    245


<210> 138
<211> 191
<212> PRT
<213> Homo sapiens

<400> 138
    Phe Ile Glu Asn Asn Ile Val Val Phe Glu Asn Phe Trp Glu Gly Leu
    1                        5                        10                       15

    Trp Met Asn Cys Val Arg Gln Ala Asn Ile Arg Met Gln Cys Lys Ile
                    20                       25                       30

    Tyr Asp Ser Leu Leu Ala Leu Ser Pro Asp Leu Gln Ala Ala Arg Gly
            35                       40                       45

    Leu Met Cys Ala Ala Ser Val Met Ser Phe Leu Ala Phe Met Met Ala
            50                       55                       60
```

```
Ile Leu Gly Met Lys Cys Thr Arg Cys Thr Gly Asp Asn Glu Lys Val
 65                  70                  75                  80

Lys Ala His Ile Leu Leu Thr Ala Gly Ile Ile Phe Ile Ile Thr Gly
                 85                  90                  95

Met Val Val Leu Ile Pro Val Ser Trp Val Ala Asn Ala Ile Ile Arg
                100                 105                 110

Asp Phe Tyr Asn Ser Ile Val Asn Val Ala Gln Lys Arg Glu Leu Gly
            115                 120                 125

Glu Ala Leu Tyr Leu Gly Trp Thr Thr Ala Leu Val Leu Ile Val Gly
    130                 135                 140

Gly Ala Leu Phe Cys Cys Val Phe Cys Cys Asn Glu Lys Ser Ser Ser
145                 150                 155                 160

Tyr Arg Tyr Ser Ile Pro Ser His Arg Thr Thr Gln Lys Ser Tyr His
                165                 170                 175

Thr Gly Lys Lys Ser Pro Ser Val Tyr Ser Arg Ser Gln Tyr Val
                180                 185                 190
```

<210> 139
<400> 139
000

<210> 140
<400> 140
000

<210> 141
<211> 323
<212> DNA
<213> Homo sapiens

<400> 141
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cgagcggccg cccgggcagg tcagacatgg gccaaggagc cagaggccgt ccggggtctg 60
tgagttgagc ttgaggccgc aggatgaggg tcatcatggg gatagccagc ctggggttcc 120
tctgggcagt attcctgctt cctcttgtgt ttggggtccc cacagaggag actacctttg 180
gagaatctgt ggcctcccat ctccccaaag ctgtcgacg atgctgtgac cccgaggacc 240
tgatgtcctc tgatgatacg gtccaggccc ctgtttcccc ttatgtcctg cctgaagtca 300
ggccgtacct cggccgcgac cac                                      323
```

<210> 142
<211> 240
<212> DNA
<213> Homo sapiens

<400> 142
atgagggtca tcatgggggat agccagcctg gggttcctct gggcagtatt cctgcttcct 60
cttgtgtttg gggtccccac agaggagact acctttggag aatctgtggc ctcccatctc 120
cccaaaggct gtcgacgatg ctgtgacccc gaggacctga tgtcctctga tgatacggtc 180
caggcccctg tttccccctta tgtcctgcct gaagtcaggc cgtacctcgg ccgcgaccac 240

<210> 143
<211> 80
<212> PRT
<213> Homo sapiens

<400> 143
Met Arg Val Ile Met Gly Ile Ala Ser Leu Gly Phe Leu Trp Ala Val
 1   5   10   15

Phe Leu Leu Pro Leu Val Phe Gly Val Pro Thr Glu Glu Thr Thr Phe
             20   25   30

Gly Glu Ser Val Ala Ser His Leu Pro Lys Gly Cys Arg Arg Cys Cys
         35   40   45

Asp Pro Glu Asp Leu Met Ser Ser Asp Asp Thr Val Gln Ala Pro Val
     50   55   60

Ser Pro Tyr Val Leu Pro Glu Val Arg Pro Tyr Leu Gly Arg Asp His
 65   70   75   80

<210> 144
<211> 24
<212> PRT
<213> Homo sapiens

<400> 144
Met Arg Val Ile Met Gly Ile Ala Ser Leu Gly Phe Leu Trp Ala Val
 1   5   10   15

Phe Leu Leu Pro Leu Val Phe Gly

<210> 145
<211> 56
<212> PRT
<213> Homo sapiens

<400> 145
Val Pro Thr Glu Glu Thr Thr Phe Gly Glu Ser Val Ala Ser His Leu
  1   5   10   15

Pro Lys Gly Cys Arg Arg Cys Cys Asp Pro Glu Asp Leu Met Ser Ser
             20   25   30

Asp Asp Thr Val Gln Ala Pro Val Ser Pro Tyr Val Leu Pro Glu Val
         35   40   45

Arg Pro Tyr Leu Gly Arg Asp His
     50   55

<210> 146
<400> 146
000

<210> 147
<400> 147
000

<210> 148
<400> 148
000

<210> 149
<400> 149
000

<210> 150
<400> 150
000

<210> 151

<211> 546
<212> DNA
<213> Homo sapiens

<400> 151
cggacgcgtg ggcggacgcg tggggttatt tctttggttg ttaggtataa tatgggcatt 60
taaaaacaac acccagtttt gtacttgtat aagtatggaa ttcttatata ggattgttgt 120
tggattcatt cttatcttta cattttttaa tattaaggga cagaatacca agtgtccaat 180
gtcttgttat tatattgtta gggtactggg cactttgggg atattgactg tattctgggt 240
ttgccccctc actattttta atccagacta ttttatacct atcagtataa ctatagttct 300
tactcttctt cttggaattc ttttttctat tgtttattat gggagttttc acccaaacag 360
aagtgcagaa acaaaatgtg atgaaattga tggaaaacca gttctaagag aatgtagaat 420
gagatatttc ctaatggaat aagctattca tttatgatat atattttctt atattttgtt 480
tcattggtta gtaaagaaaa tgtgtgttaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 540
aaaaaa 546

<210> 152
<211> 345
<212> DNA
<213> Homo sapiens

<400> 152
atggaattct tatataggat tgttgttgga ttcattctta tctttacatt ttttaatatt 60
aagggacaga ataccaagtg tccaatgtct tgttattata ttgttagggt actgggcact 120
ttggggatat tgactgtatt ctgggtttgc cccctcacta tttttaatcc agactatttt 180
atacctatca gtataactat agttcttact cttcttcttg gaattctttt tcttattgtt 240
tattatggga gttttcaccc aaacagaagt gcagaaacaa aatgtgatga aattgatgga 300
aaaccagttc taagagaatg tagaatgaga tatttcctaa tggaa 345

<210> 153
<211> 115
<212> PRT
<213> Homo sapiens

<400> 153
Met Glu Phe Leu Tyr Arg Ile Val Val Gly Phe Ile Leu Ile Phe Thr
 1   5   10   15

Phe Phe Asn Ile Lys Gly Gln Asn Thr Lys Cys Pro Met Ser Cys Tyr
            20   25   30

Tyr Ile Val Arg Val Leu Gly Thr Leu Gly Ile Leu Thr Val Phe Trp
        35   40   45

Val Cys Pro Leu Thr Ile Phe Asn Pro Asp Tyr Phe Ile Pro Ile Ser
    50   55   60

105

Ile Thr Ile Val Leu Thr Leu Leu Leu Gly Ile Leu Phe Leu Ile Val
65   70   75   80

Tyr Tyr Gly Ser Phe His Pro Asn Arg Ser Ala Glu Thr Lys Cys Asp
                85   90   95

Glu Ile Asp Gly Lys Pro Val Leu Arg Glu Cys Arg Met Arg Tyr Phe
            100   105   110

Leu Met Glu
        115

<210> 154
<211> 22
<212> PRT
<213> Homo sapiens

<400> 154
Met Glu Phe Leu Tyr Arg Ile Val Val Gly Phe Ile Leu Ile Phe Thr
 1   5   10   15

Phe Phe Asn Ile Lys Gly
                20

<210> 155
<211> 93
<212> PRT
<213> Homo sapiens

<400> 155
Gln Asn Thr Lys Cys Pro Met Ser Cys Tyr Tyr Ile Val Arg Val Leu
 1   5   10   15

Gly Thr Leu Gly Ile Leu Thr Val Phe Trp Val Cys Pro Leu Thr Ile
                20   25   30

Phe Asn Pro Asp Tyr Phe Ile Pro Ile Ser Ile Thr Ile Val Leu Thr
            35   40   45

Leu Leu Leu Gly Ile Leu Phe Leu Ile Val Tyr Tyr Gly Ser Phe His
    50   55   60

Pro Asn Arg Ser Ala Glu Thr Lys Cys Asp Glu Ile Asp Gly Lys Pro
 65   70   75   80

106

Val Leu Arg Glu Cys Arg Met Arg Tyr Phe Leu Met Glu
                85   90

<210> 156
<211> 9
<212> PRT
<213> Homo sapiens

<400> 156
Gln Asn Thr Lys Cys Pro Met Ser Cys
  1   5

<210> 157
<211> 18
<212> PRT
<213> Homo sapiens

<400> 157
Tyr Tyr Ile Val Arg Val Leu Gly Thr Leu Gly Ile Leu Thr Val Phe
  1   5   10   15

Trp Val

<210> 158
<211> 9
<212> PRT
<213> Homo sapiens

<400> 158
Cys Pro Leu Thr Ile Phe Asn Pro Asp
  1   5

<210> 159
<211> 24
<212> PRT
<213> Homo sapiens

<400> 159
Tyr Phe Ile Pro Ile Ser Ile Thr Ile Val Leu Thr Leu Leu Leu Gly
  1   5   10   15

Ile Leu Phe Leu Ile Val Tyr Tyr
            20

107

<210> 160
<211> 33
<212> PRT
<213> Homo sapiens

<400> 160
Gly Ser Phe His Pro Asn Arg Ser Ala Glu Thr Lys Cys Asp Glu Ile
 1   5   10   15

Asp Gly Lys Pro Val Leu Arg Glu Cys Arg Met Arg Tyr Phe Leu Met
            20   25   30

Glu

<210> 161
<400> 161
000

<210> 162
<400> 162
000

<210> 163
<400> 163
000

<210> 164
<400> 164
000

<210> 165
<400> 165
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<210> 166
<400> 166
000

<210> 167

<400> 167

000

<210> 168

<400> 168

000

<210> 169

<400> 169

000

<210> 170

<400> 170

000

<210> 171

<211> 1684

<212> DNA

<213> Homo sapiens

<400> 171

cggacgcggt gggcggacgc gtgggcagct gaagaaagag aggaatgaag cgccttctgc 60

ttctgttttt gttctttata acattttctt ctgcatttcc cttagtccgg atgacggaaa 120

atgaagaaaa tatgcaactg gctcaggcat atctcaacca gttctactct cttgaaatag 180

aagggaatca tcttgttcaa agcaagaata ggagtctcat agatgacaaa attcgggaaa 240

tgcaagcatt ttttggattg acagtgactg gaaaactgga ctcaaacacc cttgagatca 300

tgaagacacc caggtgtggg gtgcctgatg tgggccagta tggctacacc ctccctgggt 360

ggagaaaata caacctcacc tacagaataa taaactatac tccggatatg gcacgagctg 420

ctgtggatga ggctatccaa gaaggtttag aagtgtggag caaagtcact ccactaaaat 480

tcaccaagat ttcaaagggg attgcagaca tcatgattgc ctttaggact cgagtccatg 540

gtcggtgtcc tcgctatttt gatggtccct tgggagtgct tggccatgcc tttcctcctg 600

gtccgggtct gggtggtgac actcattttg atgaggatga aaactggacc aaggatggag 660

caggattcaa cttgtttctt gtggctgctc atgaatttgg tcatgcactg gggctctctc 720

actccaatga tcaaacagcc ttgatgttcc caaattatgt ctccctggat cccagaaaat 780

acccactttc tcaggatgat atcaatggaa tccagtccat ctatggaggt ctgcctaagg 840

tacctgctaa gccaaaggaa cccactatac cccatgcctg tgaccctgac ttgacttttg 900

acgctatcac aactttccgc agagaagtaa tgttctttaa aggcaggcac ctatggagga 960

tctattatga tatcacggat gttgagtttg aattaattgc ttcattctgg ccatctctgc 1020

cagctgatct gcaagctgca tacgagaacc cagagataa gattctggtt tttaaagatg 1080

aaaacttctg gatgatcaga ggatatgctg tcttgccaga ttatcccaaa tccatccata 1140

cattaggttt tccaggacgt gtgaagaaaa tagatgcagc cgtctgtgat aagaccacaa 1200

gaaaaaccta cttctttgtg ggcatttggt gctggaggtt tgatgaaatg acccaaacca 1260

tggacaaagg attcccgcag agagtggtaa aacactttcc tggaatcagt atccgtgttg 1320

109

```
atgctgcttt ccagtacaaa ggattcttct tttttcagccg tggatcaaag caatttgaat 1380
acaacattaa gacaaagaat attacccgaa tcatgagaac taatacttgg tttcaatgca 1440
aagaaccaaa gaactcctca tttggttttg atatcaacaa ggaaaaagca cattcaggag 1500
gcataaagat attgtatcat aagagtttaa gcttgtttat ttttggtatt gttcatttgc 1560
tgaaaaacac ttctatttat caataaattc atagacctaa aataaacctc aacaggtctt 1620
ttaatataaa ttctgcttca aaatagaata aaaccattct ttaacaacaa aaaaaaaaaa 1680
aaaa                                                            1684


<210> 172
<211> 1542
<212> DNA
<213> Homo sapiens

<400> 172
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gtccggatga cggaaaatga agaaaatatg caactggctc aggcatatct caaccagttc 120
tactctcttg aaatagaagg gaatcatctt gttcaaagca agaataggag tctcatagat 180
gacaaaattc gggaaatgca agcatttttt ggattgacag tgactggaaa actggactca 240
aacacccttg agatcatgaa gacacccagg tgtggggtgc ctgatgtggg ccagtatggc 300
tacaccctcc ctgggtggag aaaatacaac ctcacctaca gaataataaa ctatactccg 360
gatatggcac gagctgctgt ggatgaggct atccaagaag gtttagaagt gtggagcaaa 420
gtcactccac taaaattcac caagatttca aaggggattg cagacatcat gattgccttt 480
aggactcgag tccatggtcg gtgtcctcgc tattttgatg gtcccttggg agtgcttggc 540
catgcctttc ctcctggtcc gggtctgggt ggtgacactc attttgatga ggatgaaaac 600
tggaccaagg atggagcagg attcaacttg tttcttgtgg ctgctcatga atttggtcat 660
gcactggggc tctctcactc caatgatcaa acagccttga tgttcccaaa ttatgtctcc 720
ctggatccca gaaaataccc actttctcag gatgatatca atggaatcca gtccatctat 780
ggaggtctgc ctaaggtacc tgctaagcca aaggaaccca ctatacccca tgcctgtgac 840
cctgacttga cttttgacgc tatcacaact ttccgcagag aagtaatgtt ctttaaaggc 900
aggcacctat ggaggatcta ttatgatatc acggatgttg agtttgaatt aattgcttca 960
ttctggccat ctctgccagc tgatctgcaa gctgcatacg agaaccccag agataagatt 1020
ctggttttta aagatgaaaa cttctggatg atcagaggat atgctgtctt gccagattat 1080
cccaaatcca tccatacatt aggttttcca ggacgtgtga agaaaataga tgcagccgtc 1140
tgtgataaga ccacaagaaa aacctacttc tttgtgggca tttggtgctg gaggtttgat 1200
gaaatgaccc aaaccatgga caaaggattc cgcagagag tggtaaaaca ctttcctgga 1260
atcagtatcc gtgttgatgc tgctttccag tacaaaggat cttcttttt cagccgtgga 1320
tcaaagcaat ttgaatacaa cattaagaca aagaatatta cccgaatcat gagaactaat 1380
acttggtttc aatgcaaaga accaaagaac tcctcatttg ttttgatat caacaaggaa 1440
aaagcacatt caggaggcat aaagatattg tatcataaga gtttaagctt gtttattttt 1500
ggtattgttc atttgctgaa aaacacttct atttatcaat aa                  1542


<210> 173
<211> 513
<212> PRT
<213> Homo sapiens
```

110

<400> 173

Met Lys Arg Leu Leu Leu Leu Phe Leu Phe Phe Ile Thr Phe Ser Ser
 1   5   10   15

Ala Phe Pro Leu Val Arg Met Thr Glu Asn Glu Glu Asn Met Gln Leu
            20   25   30

Ala Gln Ala Tyr Leu Asn Gln Phe Tyr Ser Leu Glu Ile Glu Gly Asn
        35   40   45

His Leu Val Gln Ser Lys Asn Arg Ser Leu Ile Asp Asp Lys Ile Arg
    50   55   60

Glu Met Gln Ala Phe Phe Gly Leu Thr Val Thr Gly Lys Leu Asp Ser
65   70   75   80

Asn Thr Leu Glu Ile Met Lys Thr Pro Arg Cys Gly Val Pro Asp Val
                85   90   95

Gly Gln Tyr Gly Tyr Thr Leu Pro Gly Trp Arg Lys Tyr Asn Leu Thr
            100   105   110

Tyr Arg Ile Ile Asn Tyr Thr Pro Asp Met Ala Arg Ala Ala Val Asp
            115   120   125

Glu Ala Ile Gln Glu Gly Leu Glu Val Trp Ser Lys Val Thr Pro Leu
    130   135   140

Lys Phe Thr Lys Ile Ser Lys Gly Ile Ala Asp Ile Met Ile Ala Phe
145   150   155   160

Arg Thr Arg Val His Gly Arg Cys Pro Arg Tyr Phe Asp Gly Pro Leu
            165   170   175

Gly Val Leu Gly His Ala Phe Pro Pro Gly Pro Gly Leu Gly Gly Asp
            180   185   190

Thr His Phe Asp Glu Asp Glu Asn Trp Thr Lys Asp Gly Ala Gly Phe
            195   200   205

Asn Leu Phe Leu Val Ala Ala His Glu Phe Gly His Ala Leu Gly Leu
    210   215   220

Ser His Ser Asn Asp Gln Thr Ala Leu Met Phe Pro Asn Tyr Val Ser
225   230   235   240

Leu Asp Pro Arg Lys Tyr Pro Leu Ser Gln Asp Asp Ile Asn Gly Ile
            245   250   255

111

Gln Ser Ile Tyr Gly Gly Leu Pro Lys Val Pro Ala Lys Pro Lys Glu
        260   265   270

Pro Thr Ile Pro His Ala Cys Asp Pro Asp Leu Thr Phe Asp Ala Ile
        275   280   285

Thr Thr Phe Arg Arg Glu Val Met Phe Phe Lys Gly Arg His Leu Trp
        290   295   300

Arg Ile Tyr Tyr Asp Ile Thr Asp Val Glu Phe Glu Leu Ile Ala Ser
305   310   315   320

Phe Trp Pro Ser Leu Pro Ala Asp Leu Gln Ala Ala Tyr Glu Asn Pro
                325   330   335

Arg Asp Lys Ile Leu Val Phe Lys Asp Glu Asn Phe Trp Met Ile Arg
                340   345   350

Gly Tyr Ala Val Leu Pro Asp Tyr Pro Lys Ser Ile His Thr Leu Gly
        355   360   365

Phe Pro Gly Arg Val Lys Lys Ile Asp Ala Ala Val Cys Asp Lys Thr
        370   375   380

Thr Arg Lys Thr Tyr Phe Phe Val Gly Ile Trp Cys Trp Arg Phe Asp
385   390   395   400

Glu Met Thr Gln Thr Met Asp Lys Gly Phe Pro Gln Arg Val Val Lys
                405   410   415

His Phe Pro Gly Ile Ser Ile Arg Val Asp Ala Ala Phe Gln Tyr Lys
                420   425   430

Gly Phe Phe Phe Phe Ser Arg Gly Ser Lys Gln Phe Glu Tyr Asn Ile
        435   440   445

Lys Thr Lys Asn Ile Thr Arg Ile Met Arg Thr Asn Thr Trp Phe Gln
        450   455   460

Cys Lys Glu Pro Lys Asn Ser Ser Phe Gly Phe Asp Ile Asn Lys Glu
465   470   475   480

Lys Ala His Ser Gly Gly Ile Lys Ile Leu Tyr His Lys Ser Leu Ser
                485   490   495

Leu Phe Ile Phe Gly Ile Val His Leu Leu Lys Asn Thr Ser Ile Tyr
        500   505   510

112

Gln

<210> 174
<211> 17
<212> PRT
<213> Homo sapiens

<400> 174
Met Lys Arg Leu Leu Leu Leu Phe Leu Phe Phe Ile Thr Phe Ser Ser
 1   5   10   15

Ala

<210> 175
<211> 291
<212> PRT
<213> Homo sapiens

<400> 175
Phe Pro Leu Val Arg Met Thr Glu Asn Glu Glu Asn Met Gln Leu Ala
 1   5   10   15

Gln Ala Tyr Leu Asn Gln Phe Tyr Ser Leu Glu Ile Glu Gly Asn His
            20   25   30

Leu Val Gln Ser Lys Asn Arg Ser Leu Ile Asp Asp Lys Ile Arg Glu
         35   40   45

Met Gln Ala Phe Phe Gly Leu Thr Val Thr Gly Lys Leu Asp Ser Asn
         50   55   60

Thr Leu Glu Ile Met Lys Thr Pro Arg Cys Gly Val Pro Asp Val Gly
 65   70   75   80

Gln Tyr Gly Tyr Thr Leu Pro Gly Trp Arg Lys Tyr Asn Leu Thr Tyr
                85   90   95

Arg Ile Ile Asn Tyr Thr Pro Asp Met Ala Arg Ala Ala Val Asp Glu
                100   105   110

Ala Ile Gln Glu Gly Leu Glu Val Trp Ser Lys Val Thr Pro Leu Lys
            115   120   125

113

Phe Thr Lys Ile Ser Lys Gly Ile Ala Asp Ile Met Ile Ala Phe Arg
    130   135   140

Thr Arg Val His Gly Arg Cys Pro Arg Tyr Phe Asp Gly Pro Leu Gly
145   150   155   160

Val Leu Gly His Ala Phe Pro Pro Gly Pro Gly Leu Gly Gly Asp Thr
                165   170   175

His Phe Asp Glu Asp Glu Asn Trp Thr Lys Asp Gly Ala Gly Phe Asn
                180   185   190

Leu Phe Leu Val Ala Ala His Glu Phe Gly His Ala Leu Gly Leu Ser
            195   200   205

His Ser Asn Asp Gln Thr Ala Leu Met Phe Pro Asn Tyr Val Ser Leu
    210   215   220

Asp Pro Arg Lys Tyr Pro Leu Ser Gln Asp Asp Ile Asn Gly Ile Gln
225   230   235   240

Ser Ile Tyr Gly Gly Leu Pro Lys Val Pro Ala Lys Pro Lys Glu Pro
                245   250   255

Thr Ile Pro His Ala Cys Asp Pro Asp Leu Thr Phe Asp Ala Ile Thr
                260   265   270

Thr Phe Arg Arg Glu Val Met Phe Phe Lys Gly Arg His Leu Trp Arg
            275   280   285

Ile Tyr Tyr
    290

<210> 176
<211> 467
<212> PRT
<213> Homo sapiens

<400> 176
Met Phe Ser Leu Lys Thr Leu Pro Phe Leu Leu Leu Leu His Val Gln
  1   5   10   15

Ile Ser Lys Ala Phe Pro Val Ser Ser Lys Glu Lys Asn Thr Lys Thr
                20   25   30

Val Gln Asp Tyr Leu Glu Lys Phe Tyr Gln Leu Pro Ser Asn Gln Tyr
            35   40   45

114

```
Gln Ser Thr Arg Lys Asn Gly Thr Asn Val Ile Val Glu Lys Leu Lys
    50                  55                  60

Glu Met Gln Arg Phe Phe Gly Leu Asn Val Thr Gly Lys Pro Asn Glu
65                  70                  75                  80

Glu Thr Leu Asp Met Met Lys Lys Pro Arg Cys Gly Val Pro Asp Ser
                85                  90                  95

Gly Gly Phe Met Leu Thr Pro Gly Asn Pro Lys Trp Glu Arg Thr Asn
                100                 105                 110

Leu Thr Tyr Arg Ile Arg Asn Tyr Thr Pro Gln Leu Ser Glu Ala Glu
            115                 120                 125

Val Glu Arg Ala Ile Lys Asp Ala Phe Glu Leu Trp Ser Val Ala Ser
    130                 135                 140

Pro Leu Ile Phe Thr Arg Ile Ser Gln Gly Glu Ala Asp Ile Asn Ile
145                 150                 155                 160

Ala Phe Tyr Gln Arg Asp His Gly Asp Asn Ser Pro Phe Asp Gly Pro
                165                 170                 175

Asn Gly Ile Leu Ala His Ala Phe Gln Pro Gly Gln Gly Ile Gly Gly
                180                 185                 190

Asp Ala His Phe Asp Ala Glu Glu Thr Trp Thr Asn Thr Ser Ala Asn
            195                 200                 205

Tyr Asn Leu Phe Leu Val Ala Ala His Glu Phe Gly His Ser Leu Gly
    210                 215                 220

Leu Ala His Ser Ser Asp Pro Gly Ala Leu Met Tyr Pro Asn Tyr Ala
225                 230                 235                 240

Phe Arg Glu Thr Ser Asn Tyr Ser Leu Pro Gln Asp Asp Ile Asp Gly
                245                 250                 255

Ile Gln Ala Ile Tyr Gly Leu Ser Ser Asn Pro Ile Gln Pro Thr Gly
                260                 265                 270

Pro Ser Thr Pro Lys Pro Cys Asp Pro Ser Leu Thr Phe Asp Ala Ile
            275                 280                 285

Thr Thr Leu Arg Gly Glu Ile Leu Phe Phe Lys Asp Arg Tyr Phe Trp
    290                 295                 300

                        115
```

Arg Arg His Pro Gln Leu Gln Arg Val Glu Met Asn Phe Ile Ser Leu
305   310   315   320

Phe Trp Pro Ser Leu Pro Thr Gly Ile Gln Ala Ala Tyr Glu Asp Phe
                325   330   335

Asp Arg Asp Leu Ile Phe Leu Phe Lys Gly Asn Gln Tyr Trp Ala Leu
                340   345   350

Ser Gly Tyr Asp Ile Leu Gln Gly Tyr Pro Lys Asp Ile Ser Asn Tyr
                355   360   365

Gly Phe Pro Ser Ser Val Gln Ala Ile Asp Ala Ala Val Phe Tyr Arg
            370   375   380

Ser Lys Thr Tyr Phe Phe Val Asn Asp Gln Phe Trp Arg Tyr Asp Asn
385   390   395   400

Gln Arg Gln Phe Met Glu Pro Gly Tyr Pro Lys Ser Ile Ser Gly Ala
                405   410   415

Phe Pro Gly Ile Glu Ser Lys Val Asp Ala Val Phe Gln Gln Glu His
            420   425   430

Phe Phe His Val Phe Ser Gly Pro Arg Tyr Tyr Ala Phe Asp Leu Ile
            435   440   445

Ala Gln Arg Val Thr Arg Val Ala Arg Gly Asn Lys Trp Leu Asn Cys
        450   455   460

Arg Tyr Gly
465

<210> 177
<211> 1401
<212> PRT
<213> Homo sapiens

<400> 177
Ala Thr Gly Thr Thr Cys Thr Cys Cys Thr Gly Ala Ala Gly Ala
  1   5   10   15

Cys Gly Cys Thr Thr Cys Cys Ala Thr Thr Thr Cys Thr Gly Cys Thr
                20   25   30

Cys Thr Thr Ala Cys Thr Cys Cys Ala Thr Gly Thr Gly Cys Ala Gly

```
            35                  40                  45

Ala Thr Thr Thr Cys Cys Ala Ala Gly Gly Cys Cys Thr Thr Thr Cys
    50                  55                  60

Cys Thr Gly Thr Ala Thr Cys Thr Thr Cys Thr Ala Ala Ala Gly Ala
65                  70                  75                  80

Gly Ala Ala Ala Ala Ala Thr Ala Cys Ala Ala Ala Ala Ala Cys Thr
                85                  90                  95

Gly Thr Thr Cys Ala Gly Gly Ala Cys Thr Ala Cys Cys Thr Gly Gly
            100                 105                 110

Ala Ala Ala Ala Gly Thr Thr Cys Thr Ala Cys Cys Ala Ala Thr Thr
            115                 120                 125

Ala Cys Cys Ala Ala Gly Cys Ala Ala Cys Cys Ala Gly Thr Ala Thr
    130                 135                 140

Cys Ala Gly Thr Cys Thr Ala Cys Ala Ala Gly Gly Ala Ala Gly Ala
145                 150                 155                 160

Ala Thr Gly Gly Cys Ala Cys Thr Ala Ala Thr Gly Thr Gly Ala Thr
            165                 170                 175

Cys Gly Thr Thr Gly Ala Ala Ala Ala Gly Cys Thr Thr Ala Ala Ala
            180                 185                 190

Gly Ala Ala Ala Thr Gly Cys Ala Gly Cys Gly Ala Thr Thr Thr Thr
            195                 200                 205

Thr Thr Gly Gly Gly Thr Thr Gly Ala Ala Thr Gly Thr Gly Ala Cys
    210                 215                 220

Gly Gly Gly Gly Ala Ala Gly Cys Cys Ala Ala Ala Thr Gly Ala Gly
225                 230                 235                 240

Gly Ala Ala Ala Cys Thr Cys Thr Gly Gly Ala Cys Ala Thr Gly Ala
            245                 250                 255

Thr Gly Ala Ala Ala Ala Ala Gly Cys Cys Thr Cys Gly Cys Thr Gly
            260                 265                 270

Thr Gly Gly Ala Gly Thr Gly Cys Cys Thr Gly Ala Cys Ala Gly Thr
    275                 280                 285

Gly Gly Thr Gly Gly Thr Thr Thr Thr Ala Thr Gly Thr Thr Ala Ala
```

117

Cys Cys Cys Cys Ala Gly Gly Ala Ala Ala Cys Cys Cys Cys Ala Ala
305   310   315   320

Gly Thr Gly Gly Gly Ala Ala Cys Gly Cys Ala Cys Thr Ala Ala Cys
                325   330   335

Thr Thr Gly Ala Cys Cys Thr Ala Cys Ala Gly Gly Ala Thr Thr Cys
            340   345   350

Gly Ala Ala Ala Cys Thr Ala Thr Ala Cys Cys Cys Cys Ala Cys Ala
        355   360   365

Gly Cys Thr Gly Thr Cys Ala Gly Ala Gly Gly Cys Thr Gly Ala Gly
    370   375   380

Gly Thr Ala Gly Ala Ala Ala Gly Ala Gly Cys Thr Ala Thr Cys Ala
385   390   395   400

Ala Gly Gly Ala Thr Gly Cys Cys Thr Thr Thr Gly Ala Ala Cys Thr
                405   410   415

Cys Thr Gly Gly Ala Gly Thr Gly Thr Thr Gly Cys Ala Thr Cys Ala
            420   425   430

Cys Cys Thr Cys Thr Cys Ala Thr Cys Thr Thr Cys Ala Cys Cys Ala
        435   440   445

Gly Gly Ala Thr Cys Thr Cys Ala Cys Ala Gly Gly Gly Ala Gly Ala
    450   455   460

Gly Gly Cys Ala Gly Ala Thr Ala Thr Cys Ala Ala Cys Ala Thr Thr
465   470   475   480

Gly Cys Thr Thr Thr Thr Thr Ala Cys Cys Ala Ala Ala Gly Ala Gly
                485   490   495

Ala Thr Cys Ala Cys Gly Gly Thr Gly Ala Cys Ala Ala Thr Thr Cys
            500   505   510

Thr Cys Cys Ala Thr Thr Thr Gly Ala Thr Gly Gly Ala Cys Cys Cys
        515   520   525

Ala Ala Thr Gly Gly Ala Ala Thr Cys Cys Thr Thr Gly Cys Thr Cys
    530   535   540

Ala Thr Gly Cys Cys Thr Thr Thr Cys Ala Gly Cys Cys Ala Gly Gly

118

Cys Cys Ala Ala Gly Gly Thr Ala Thr Thr Gly Gly Ala Gly Gly Ala
                565   570   575

Gly Ala Thr Gly Cys Thr Cys Ala Thr Thr Thr Gly Ala Thr Gly
            580   585   590

Cys Cys Gly Ala Ala Gly Ala Ala Ala Cys Ala Thr Gly Gly Ala Cys
            595   600   605

Cys Ala Ala Cys Ala Cys Cys Thr Cys Cys Gly Cys Ala Ala Ala Thr
        610   615   620

Thr Ala Cys Ala Ala Cys Thr Thr Gly Thr Thr Thr Cys Thr Thr Gly
625   630   635   640

Thr Thr Gly Cys Thr Gly Cys Thr Cys Ala Thr Gly Ala Ala Thr Thr
                645   650   655

Thr Gly Gly Cys Cys Ala Thr Thr Cys Thr Thr Thr Gly Gly Gly Gly
            660   665   670

Cys Thr Cys Gly Cys Thr Cys Ala Cys Thr Cys Cys Thr Cys Thr Gly
            675   680   685

Ala Cys Cys Cys Thr Gly Gly Thr Gly Cys Cys Thr Thr Gly Ala Thr
        690   695   700

Gly Thr Ala Thr Cys Cys Cys Ala Ala Cys Thr Ala Thr Gly Cys Thr
705   710   715   720

Thr Thr Cys Ala Gly Gly Gly Ala Ala Ala Cys Cys Ala Gly Cys Ala
            725   730   735

Ala Cys Thr Ala Cys Thr Cys Ala Cys Thr Cys Cys Cys Thr Cys Ala
        740   745   750

Ala Gly Ala Thr Gly Ala Cys Ala Thr Cys Gly Ala Thr Gly Gly Cys
        755   760   765

Ala Thr Thr Cys Ala Gly Gly Cys Cys Ala Thr Cys Thr Ala Thr Gly
    770   775   780

Gly Ala Cys Thr Thr Thr Cys Ala Ala Gly Cys Ala Ala Cys Cys Cys
785   790   795   800

Thr Ala Thr Cys Cys Ala Ala Cys Cys Thr Ala Cys Thr Gly Gly Ala

119

Cys Cys Ala Ala Gly Cys Ala Cys Ala Cys Cys Cys Ala Ala Ala Cys
          820   825   830

Cys Cys Thr Gly Thr Gly Ala Cys Cys Cys Cys Ala Gly Thr Thr Thr
          835   840   845

Gly Ala Cys Ala Thr Thr Thr Gly Ala Thr Gly Cys Thr Ala Thr Cys
          850   855   860

Ala Cys Cys Ala Cys Ala Cys Thr Cys Cys Gly Thr Gly Gly Ala Gly
865   870   875   880

Ala Ala Ala Thr Ala Cys Thr Thr Thr Thr Cys Thr Thr Thr Ala Ala
                    885   890   895

Ala Gly Ala Cys Ala Gly Gly Thr Ala Cys Thr Thr Cys Thr Gly Gly
          900   905   910

Ala Gly Ala Ala Gly Gly Cys Ala Thr Cys Cys Thr Cys Ala Gly Cys
          915   920   925

Thr Ala Cys Ala Ala Ala Gly Ala Gly Thr Cys Gly Ala Ala Ala Thr
          930   935   940

Gly Ala Ala Thr Thr Thr Thr Ala Thr Thr Thr Cys Thr Cys Thr Ala
945   950   955   960

Thr Thr Cys Thr Gly Gly Cys Cys Ala Thr Cys Cys Cys Thr Thr Cys
                    965   970   975

Cys Ala Ala Cys Thr Gly Gly Thr Ala Thr Ala Cys Ala Gly Gly Cys
          980   985   990

Thr Gly Cys Thr Thr Ala Thr Gly Ala Ala Gly Ala Thr Thr Thr Thr
          995   1000   1005

Gly Ala Cys Ala Gly Ala Gly Ala Cys Cys Thr Cys Ala Thr Thr Thr
          1010   1015   1020

Thr Cys Cys Thr Ala Thr Thr Thr Ala Ala Ala Gly Gly Cys Ala Ala
1025   1030   1035   1040

Cys Cys Ala Ala Thr Ala Cys Thr Gly Gly Gly Cys Thr Cys Thr Gly
                    1045   1050   1055

Ala Gly Thr Gly Gly Cys Thr Ala Thr Gly Ala Thr Ala Thr Thr Cys

120

```
              1060                    1065                    1070

Thr Gly Cys Ala Ala Gly Gly Thr Thr Ala Thr Cys Cys Cys Ala Ala
        1075                1080                1085

Gly Gly Ala Thr Ala Thr Ala Thr Cys Ala Ala Ala Cys Thr Ala Thr
     1090                1095                1100

Gly Gly Cys Thr Thr Cys Cys Cys Cys Ala Gly Cys Ala Gly Cys Gly
1105                1110                1115                1120

Thr Cys Cys Ala Ala Gly Cys Ala Ala Thr Thr Gly Ala Cys Gly Cys
            1125                1130                1135

Ala Gly Cys Thr Gly Thr Thr Thr Thr Cys Thr Ala Cys Ala Gly Ala
        1140                1145                1150

Ala Gly Thr Ala Ala Ala Ala Cys Ala Thr Ala Cys Thr Thr Cys Thr
        1155                1160                1165

Thr Thr Gly Thr Ala Ala Ala Thr Gly Ala Cys Cys Ala Ala Thr Thr
     1170                1175                1180

Cys Thr Gly Gly Ala Gly Ala Thr Ala Thr Gly Ala Thr Ala Ala Cys
1185                1190                1195                1200

Cys Ala Ala Ala Gly Ala Cys Ala Ala Thr Thr Cys Ala Thr Gly Gly
            1205                1210                1215

Ala Gly Cys Cys Ala Gly Gly Thr Thr Ala Thr Cys Cys Cys Ala Ala
        1220                1225                1230

Ala Ala Gly Cys Ala Thr Ala Thr Cys Ala Gly Gly Thr Gly Cys Cys
        1235                1240                1245

Thr Thr Thr Cys Cys Ala Gly Gly Ala Ala Thr Ala Gly Ala Gly Ala
     1250                1255                1260

Gly Thr Ala Ala Ala Gly Thr Thr Gly Ala Thr Gly Cys Ala Gly Thr
1265                1270                1275                1280

Thr Thr Thr Cys Cys Ala Gly Cys Ala Ala Gly Ala Ala Cys Ala Thr
        1285                1290                1295

Thr Thr Cys Thr Thr Cys Cys Ala Thr Gly Thr Cys Thr Thr Cys Ala
        1300                1305                1310

Gly Thr Gly Gly Ala Cys Cys Ala Ala Gly Ala Thr Ala Thr Thr Ala
```

121

```
          1315                    1320                      1325

    Cys Gly Cys Ala Thr Thr Thr Gly Ala Thr Cys Thr Thr Ala Thr Thr
       1330                 1335                 1340

    Gly Cys Thr Cys Ala Gly Ala Gly Ala Gly Thr Thr Ala Cys Cys Ala
    1345                 1350                 1355                 1360

    Gly Ala Gly Thr Thr Gly Cys Ala Ala Gly Ala Gly Gly Cys Ala Ala
                    1365                 1370                 1375

    Thr Ala Ala Ala Thr Gly Gly Cys Thr Thr Ala Ala Cys Thr Gly Thr
                1380                 1385                 1390

    Ala Gly Ala Thr Ala Thr Gly Gly Cys
           1395                 1400


    <210> 178
    <211> 471
    <212> PRT
    <213> Homo sapiens

    <400> 178
    Phe Pro Leu Val Arg Met Thr Glu Asn Glu Glu Asn Met Gln Leu Ala
     1               5                  10                  15

    Gln Ala Tyr Leu Asn Gln Phe Tyr Ser Leu Glu Ile Glu Gly Asn His
                   20                  25                  30

    Leu Val Gln Ser Lys Asn Arg Ser Leu Ile Asp Asp Lys Ile Arg Glu
               35                  40                  45

    Met Gln Ala Phe Phe Gly Leu Thr Val Thr Gly Lys Leu Asp Ser Asn
           50                  55                  60

    Thr Leu Glu Ile Met Lys Thr Pro Arg Cys Gly Val Pro Asp Val Gly
     65                  70                  75                  80

    Gln Tyr Gly Tyr Thr Leu Pro Gly Trp Arg Lys Tyr Asn Leu Thr Tyr
                    85                  90                  95

    Arg Ile Ile Asn Tyr Thr Pro Asp Met Ala Arg Ala Ala Val Asp Glu
                   100                 105                 110

    Ala Ile Gln Glu Gly Leu Glu Val Trp Ser Lys Val Thr Pro Leu Lys
               115                 120                 125
```

122

```
Phe Thr Lys Ile Ser Lys Gly Ile Ala Asp Ile Met Ile Ala Phe Arg
    130                 135                 140

Thr Arg Val His Gly Arg Cys Pro Arg Tyr Phe Asp Gly Pro Leu Gly
145                 150                 155                 160

Val Leu Gly His Ala Phe Pro Pro Gly Pro Gly Leu Gly Gly Asp Thr
                165                 170                 175

His Phe Asp Glu Asp Glu Asn Trp Thr Lys Asp Gly Ala Gly Phe Asn
                180                 185                 190

Leu Phe Leu Val Ala Ala His Glu Phe Gly His Ala Leu Gly Leu Ser
                195                 200                 205

His Ser Asn Asp Gln Thr Ala Leu Met Phe Pro Asn Tyr Val Ser Leu
    210                 215                 220

Asp Pro Arg Lys Tyr Pro Leu Ser Gln Asp Asp Ile Asn Gly Ile Gln
225                 230                 235                 240

Ser Ile Tyr Gly Gly Leu Pro Lys Val Pro Ala Lys Pro Lys Glu Pro
                245                 250                 255

Thr Ile Pro His Ala Cys Asp Pro Asp Leu Thr Phe Asp Ala Ile Thr
                260                 265                 270

Thr Phe Arg Arg Glu Val Met Phe Phe Lys Gly Arg His Leu Trp Arg
                275                 280                 285

Ile Tyr Tyr Asp Ile Thr Asp Val Glu Phe Glu Leu Ile Ala Ser Phe
    290                 295                 300

Trp Pro Ser Leu Pro Ala Asp Leu Gln Ala Ala Tyr Glu Asn Pro Arg
305                 310                 315                 320

Asp Lys Ile Leu Val Phe Lys Asp Glu Asn Phe Trp Met Ile Arg Gly
                325                 330                 335

Tyr Ala Val Leu Pro Asp Tyr Pro Lys Ser Ile His Thr Leu Gly Phe
                340                 345                 350

Pro Gly Arg Val Lys Lys Ile Asp Ala Ala Val Cys Asp Lys Thr Thr
                355                 360                 365

Arg Lys Thr Tyr Phe Phe Val Gly Ile Trp Cys Trp Arg Phe Asp Glu
    370                 375                 380
```

123

Met Thr Gln Thr Met Asp Lys Gly Phe Pro Gln Arg Val Val Lys His
385   390   395   400

Phe Pro Gly Ile Ser Ile Arg Val Asp Ala Ala Phe Gln Tyr Lys Gly
              405   410   415

Phe Phe Phe Phe Ser Arg Gly Ser Lys Gln Phe Glu Tyr Asn Ile Lys
              420   425   430

Thr Lys Asn Ile Thr Arg Ile Met Arg Thr Asn Thr Trp Phe Gln Cys
        435   440   445

Lys Glu Pro Lys Asn Ser Ser Phe Gly Phe Asp Ile Asn Lys Glu Lys
        450   455   460

Ala His Ser Gly Gly Ile Lys
465   470

<210> 179
<211> 18
<212> PRT
<213> Homo sapiens

<400> 179
Ile Leu Tyr His Lys Ser Leu Ser Leu Phe Ile Phe Gly Ile Val His
    1   5   10   15

Leu Leu

<210> 180
<211> 7
<212> PRT
<213> Homo sapiens

<400> 180
Lys Asn Thr Ser Ile Tyr Gln
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<210> 181
<211> 2467
<212> DNA
<213> Mus sp.

<400> 181

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<210> 182
<211> 1554
<212> DNA
<213> Mus sp.


125
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<400> 182

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aagaacagga gtctctttga tggaaaactt cgggaaatgc aggcattttt cggattgaca    240
gtgactggaa aactggattc agacacactt gcgatcatga aagtgcccag gtgtggggta    300
ccagatgtgg ggcaatatgg ctacacactc cctgggtgga aaaatacag ccttacatac    360
agaataatga actatactcc tgatatgaca ccagctgatg tggatgaggc tattcagaaa    420
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<210> 183
<211> 511
<212> PRT
<213> Mus sp.

<400> 183

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1               5                   10                  15

Ala Phe Pro Pro Asp Arg Lys Asp Lys Asn Glu Glu Asn Asn Gln Leu
            20                  25                  30

Ala Gln Ala Tyr Leu Asn Gln Phe Tyr Ser Leu Glu Ile Glu Gly Ser
        35                  40                  45

His Phe Val Gln Ser Lys Asn Arg Ser Leu Phe Asp Gly Lys Leu Arg
    50                  55                  60
```

126

```
Glu Met Gln Ala Phe Phe Gly Leu Thr Val Thr Gly Lys Leu Asp Ser
65                  70                  75                  80

Asp Thr Leu Ala Ile Met Lys Val Pro Arg Cys Gly Val Pro Asp Val
                85                  90                  95

Gly Gln Tyr Gly Tyr Thr Leu Pro Gly Trp Arg Lys Tyr Ser Leu Thr
            100                 105                 110

Tyr Arg Ile Met Asn Tyr Thr Pro Asp Met Thr Pro Ala Asp Val Asp
        115                 120                 125

Glu Ala Ile Gln Lys Ala Leu Gln Val Trp Ser Lys Val Thr Pro Leu
    130                 135                 140

Thr Phe Thr Arg Ile Ser Lys Gly Val Ala Asp Ile Met Ile Ala Phe
145                 150                 155                 160

Arg Thr Gly Val His Gly Trp Cys Pro Arg His Phe Asp Gly Pro Leu
            165                 170                 175

Gly Val Leu Gly His Ala Phe Pro Pro Gly Leu Gly Leu Gly Gly Asp
            180                 185                 190

Thr His Phe Asp Glu Asp Glu Thr Trp Ile Ala Lys Asp Gly Glu Gly
        195                 200                 205

Phe Asn Leu Phe Leu Val Ala Ala His Glu Phe Gly His Ser Leu Gly
    210                 215                 220

Leu Ser His Ser Asn Asp Gln Thr Ala Leu Met Phe Pro Asn Tyr Ile
225                 230                 235                 240

Ser Leu Asp Pro Ser Lys Tyr Pro Leu Ser Gln Asp Asp Ile Asp Gly
            245                 250                 255

Ile Gln Ser Ile Tyr Gly Ser Pro Pro Lys Val Thr Thr Lys Pro Ser
        260                 265                 270

Gly Asn Ser Glu Pro His Ala Cys Asp Pro Thr Leu Thr Phe Asp Ala
    275                 280                 285

Ile Thr Thr Phe Arg Arg Glu Val Met Phe Phe Lys Gly Arg His Leu
    290                 295                 300

Trp Arg Val Tyr Ser Asp Ile Ala Gly Ala Glu Phe Glu Phe Ile Asp
305                 310                 315                 320
```

127

Ser Phe Trp Pro Ser Leu Pro Ala Asp Leu Gln Ala Ala Tyr Glu Ser
            325   330   335

Pro Arg Asp Glu Leu Leu Val Phe Lys Asp Glu Asn Phe Trp Val Ile
            340   345   350

Arg Gly Tyr Ser Val Leu Pro Gly Tyr Pro Lys Ser Ile His Thr Leu
            355   360   365

Gly Phe Pro Arg Arg Val Lys Lys Ile Asp Ala Ala Val Cys Asp His
    370   375   380

Asp Thr Arg Lys Thr Phe Phe Phe Val Gly Ile Trp Cys Trp Arg Tyr
385   390   395   400

Asp Glu Met Ala Gln Ala Met Asp Arg Gly Phe Pro Gln Arg Ile Ile
                405   410   415

Lys Cys Phe Pro Gly Ile Arg Leu Arg Val Asp Ala Val Phe Gln His
            420   425   430

Asn Gly Phe Leu Tyr Phe Phe His Gly Ser Arg Gln Phe Glu Tyr Asp
            435   440   445

Met Lys Ala Lys Asn Ile Thr Gln Val Ile Lys Thr Asn Ser Trp Phe
    450   455   460

Leu Cys Asn Glu Pro Leu Asn Ala Ser Phe Asn Val Ser Val Lys Gly
465   470   475   480

Lys Ala Asn Ser Ile Gly Thr Val Ile Leu His His Lys Arg Leu Ser
            485   490   495

Leu Leu Thr Phe Ser Ile Val His Val Leu Thr Lys Thr Tyr Asn
            500   505   510

<210> 184
<211> 17
<212> PRT
<213> Mus sp.

<400> 184
Met Lys Cys Leu Leu Ser Leu Met Val Asn Phe Ile Thr Leu Ser Ala
    1   5   10   15

Ala

128

<210> 185
<211> 494
<212> PRT
<213> Mus sp.

<400> 185
Phe Pro Pro Asp Arg Lys Asp Lys Asn Glu Glu Asn Asn Gln Leu Ala
 1   5   10   15

Gln Ala Tyr Leu Asn Gln Phe Tyr Ser Leu Glu Ile Glu Gly Ser His
            20   25   30

Phe Val Gln Ser Lys Asn Arg Ser Leu Phe Asp Gly Lys Leu Arg Glu
            35   40   45

Met Gln Ala Phe Phe Gly Leu Thr Val Thr Gly Lys Leu Asp Ser Asp
        50   55   60

Thr Leu Ala Ile Met Lys Val Pro Arg Cys Gly Val Pro Asp Val Gly
 65   70   75   80

Gln Tyr Gly Tyr Thr Leu Pro Gly Trp Arg Lys Tyr Ser Leu Thr Tyr
                85   90   95

Arg Ile Met Asn Tyr Thr Pro Asp Met Thr Pro Ala Asp Val Asp Glu
            100   105   110

Ala Ile Gln Lys Ala Leu Gln Val Trp Ser Lys Val Thr Pro Leu Thr
            115   120   125

Phe Thr Arg Ile Ser Lys Gly Val Ala Asp Ile Met Ile Ala Phe Arg
        130   135   140

Thr Gly Val His Gly Trp Cys Pro Arg His Phe Asp Gly Pro Leu Gly
145   150   155   160

Val Leu Gly His Ala Phe Pro Pro Gly Leu Gly Leu Gly Gly Asp Thr
                165   170   175

His Phe Asp Glu Asp Glu Thr Trp Ile Ala Lys Asp Gly Glu Gly Phe
            180   185   190

Asn Leu Phe Leu Val Ala Ala His Glu Phe Gly His Ser Leu Gly Leu
            195   200   205

Ser His Ser Asn Asp Gln Thr Ala Leu Met Phe Pro Asn Tyr Ile Ser

129

Leu Asp Pro Ser Lys Tyr Pro Leu Ser Gln Asp Asp Ile Asp Gly Ile
225   230   235   240

Gln Ser Ile Tyr Gly Ser Pro Pro Lys Val Thr Thr Lys Pro Ser Gly
                245   250   255

Asn Ser Glu Pro His Ala Cys Asp Pro Thr Leu Thr Phe Asp Ala Ile
            260   265   270

Thr Thr Phe Arg Arg Glu Val Met Phe Phe Lys Gly Arg His Leu Trp
            275   280   285

Arg Val Tyr Ser Asp Ile Ala Gly Ala Glu Phe Glu Phe Ile Asp Ser
    290   295   300

Phe Trp Pro Ser Leu Pro Ala Asp Leu Gln Ala Ala Tyr Glu Ser Pro
305   310   315   320

Arg Asp Glu Leu Leu Val Phe Lys Asp Glu Asn Phe Trp Val Ile Arg
            325   330   335

Gly Tyr Ser Val Leu Pro Gly Tyr Pro Lys Ser Ile His Thr Leu Gly
            340   345   350

Phe Pro Arg Arg Val Lys Lys Ile Asp Ala Ala Val Cys Asp His Asp
            355   360   365

Thr Arg Lys Thr Phe Phe Phe Val Gly Ile Trp Cys Trp Arg Tyr Asp
    370   375   380

Glu Met Ala Gln Ala Met Asp Arg Gly Phe Pro Gln Arg Ile Ile Lys
385   390   395   400

Cys Phe Pro Gly Ile Arg Leu Arg Val Asp Ala Val Phe Gln His Asn
            405   410   415

Gly Phe Leu Tyr Phe Phe His Gly Ser Arg Gln Phe Glu Tyr Asp Met
            420   425   430

Lys Ala Lys Asn Ile Thr Gln Val Ile Lys Thr Asn Ser Trp Phe Leu
            435   440   445

Cys Asn Glu Pro Leu Asn Ala Ser Phe Asn Val Ser Val Lys Gly Lys
    450   455   460

Ala Asn Ser Ile Gly Thr Val Ile Leu His His Lys Arg Leu Ser Leu

130

Leu Thr Phe Ser Ile Val His Val Leu Thr Lys Thr Tyr Asn
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<210> 186
<400> 186
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<210> 187
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<210> 188
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<210> 189
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<210> 190
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<210> 191
<211> 2628
<212> DNA
<213> Homo sapiens

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131

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<210> 192
<211> 1059
<212> DNA
<213> Homo sapiens


<400> 192
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132

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<210> 193
<211> 353
<212> PRT
<213> Homo sapiens

<400> 193

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Met Pro Trp Pro Leu Leu Leu Leu Ala Val Ser Gly Ala Gln Thr
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Thr Arg Pro Cys Phe Pro Gly Cys Gln Cys Glu Val Glu Thr Phe Gly
                20                  25                  30

Leu Phe Asp Ser Phe Ser Leu Thr Arg Val Asp Cys Ser Gly Leu Gly
            35                  40                  45

Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr Ala His Leu Asp
        50                  55                  60

Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu Ser Val Leu Ala Gly
 65                  70                  75                  80

Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp Leu Ser His Asn Leu Leu
                85                  90                  95

Thr Ser Ile Ser Pro Thr Ala Phe Ser Arg Leu Arg Tyr Leu Glu Ser
                100                 105                 110

Leu Asp Leu Ser His Asn Gly Leu Thr Ala Leu Pro Ala Glu Ser Phe
            115                 120                 125

Thr Ser Ser Pro Leu Ser Asp Val Asn Leu Ser His Asn Gln Leu Arg
        130                 135                 140

Glu Val Ser Val Ser Ala Phe Thr Thr His Ser Gln Gly Arg Ala Leu
145                 150                 155                 160
```

```
His Val Asp Leu Ser His Asn Leu Ile His Arg Leu Val Pro His Pro
                165                 170                 175

Thr Arg Ala Gly Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala
                180                 185                 190

Trp Asn Arg Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg
                195                 200                 205

Tyr Leu Ser Leu Asp Gly Asn Pro Leu Ala Val Ile Gly Pro Gly Ala
    210                 215                 220

Phe Ala Gly Leu Gly Gly Leu Thr His Leu Ser Leu Ala Ser Leu Gln
225                 230                 235                 240

Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly Leu
                245                 250                 255

Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala Gly Ala
                260                 265                 270

Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp Leu Ser Gly
                275                 280                 285

Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu Leu His Leu Pro Ala
    290                 295                 300

Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg Cys Arg Arg Leu Val
305                 310                 315                 320

Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly Ser Ser Pro Lys Val Ala
                325                 330                 335

Leu His Cys Val Asp Thr Arg Glu Ser Ala Ala Arg Gly Pro Thr Ile
                340                 345                 350

Leu
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<210> 194
<211> 16
<212> PRT
<213> Homo sapiens

<400> 194
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134

<210> 195
<211> 337
<212> PRT
<213> Homo sapiens

<400> 195
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 1   5   10   15

Leu Phe Asp Ser Phe Ser Leu Thr Arg Val Asp Cys Ser Gly Leu Gly
            20   25   30

Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr Ala His Leu Asp
            35   40   45

Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu Ser Val Leu Ala Gly
        50   55   60

Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp Leu Ser His Asn Leu Leu
 65   70   75   80

Thr Ser Ile Ser Pro Thr Ala Phe Ser Arg Leu Arg Tyr Leu Glu Ser
                85   90   95

Leu Asp Leu Ser His Asn Gly Leu Thr Ala Leu Pro Ala Glu Ser Phe
            100   105   110

Thr Ser Ser Pro Leu Ser Asp Val Asn Leu Ser His Asn Gln Leu Arg
        115   120   125

Glu Val Ser Val Ser Ala Phe Thr Thr His Ser Gln Gly Arg Ala Leu
    130   135   140

His Val Asp Leu Ser His Asn Leu Ile His Arg Leu Val Pro His Pro
145   150   155   160

Thr Arg Ala Gly Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala
            165   170   175

Trp Asn Arg Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg
            180   185   190

Tyr Leu Ser Leu Asp Gly Asn Pro Leu Ala Val Ile Gly Pro Gly Ala
        195   200   205

135

Phe Ala Gly Leu Gly Gly Leu Thr His Leu Ser Leu Ala Ser Leu Gln
    210   215   220

Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly Leu
225   230   235   240

Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala Gly Ala
                245   250   255

Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp Leu Ser Gly
                260   265   270

Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu Leu His Leu Pro Ala
    275   280   285

Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg Cys Arg Arg Leu Val
    290   295   300

Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly Ser Ser Pro Lys Val Ala
305   310   315   320

Leu His Cys Val Asp Thr Arg Glu Ser Ala Ala Arg Gly Pro Thr Ile
                325   330   335

Leu

<210> 196
<211> 200
<212> PRT
<213> Homo sapiens

<400> 196
Thr Arg Pro Cys Phe Pro Gly Cys Gln Cys Glu Val Glu Thr Phe Gly
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Leu Phe Asp Ser Phe Ser Leu Thr Arg Val Asp Cys Ser Gly Leu Gly
                20   25   30

Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr Ala His Leu Asp
            35   40   45

Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu Ser Val Leu Ala Gly
    50   55   60

Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp Leu Ser His Asn Leu Leu
65   70   75   80

136

Thr Ser Ile Ser Pro Thr Ala Phe Ser Arg Leu Arg Tyr Leu Glu Ser
            85   90   95

Leu Asp Leu Ser His Asn Gly Leu Thr Ala Leu Pro Ala Glu Ser Phe
            100   105   110

Thr Ser Ser Pro Leu Ser Asp Val Asn Leu Ser His Asn Gln Leu Arg
            115   120   125

Glu Val Ser Val Ser Ala Phe Thr Thr His Ser Gln Gly Arg Ala Leu
    130   135   140

His Val Asp Leu Ser His Asn Leu Ile His Arg Leu Val Pro His Pro
145   150   155   160

Thr Arg Ala Gly Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala
            165   170   175

Trp Asn Arg Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg
            180   185   190

Tyr Leu Ser Leu Asp Gly Asn Pro
            195   200

<210> 197
<211> 23
<212> PRT
<213> Homo sapiens

<400> 197
Leu Ala Val Ile Gly Pro Gly Ala Phe Ala Gly Leu Gly Gly Leu Thr
    1   5   10   15

His Leu Ser Leu Ala Ser Leu
                20

<210> 198
<211> 114
<212> PRT
<213> Homo sapiens

<400> 198
Gln Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly
    1   5   10   15

137

Leu Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala Gly
                20   25   30

Ala Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp Leu Ser
                35   40   45

Gly Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu Leu His Leu Pro
        50   55   60

Ala Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg Cys Arg Arg Leu
    65   70   75   80

Val Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly Ser Ser Pro Lys Val
                85   90   95

Ala Leu His Cys Val Asp Thr Arg Glu Ser Ala Ala Arg Gly Pro Thr
                100   105   110

Ile Leu

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<210> 200
<400> 200
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<210> 201
<211> 3770
<212> DNA
<213> Homo sapiens

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138

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139

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<210> 202
<211> 2337
<212> DNA
<213> Homo sapiens

<400> 202
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140

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<210> 203
<211> 778
<212> PRT
<213> Homo sapiens

<400> 203

Met	Leu	Ile	Gly	Glu	Ile	Phe	Glu	Leu	Met	Gln	Phe	Leu	Phe	Val	Val
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Ala Phe Thr Thr Phe Leu Val Ser Cys Val Asp Tyr Asp Ile Leu Phe
          20   25   30

Ala Asn Lys Met Val Asn His Ser Leu His Pro Thr Glu Pro Val Lys
          35   40   45

Val Thr Leu Pro Asp Ala Phe Leu Pro Ala Gln Val Cys Ser Ala Arg
      50   55   60

Ile Gln Glu Asn Gly Ser Leu Ile Thr Ile Leu Val Ile Ala Gly Val
 65   70   75   80

Phe Trp Ile His Arg Leu Ile Lys Phe Ile Tyr Asn Ile Cys Cys Tyr
                  85   90   95

Trp Glu Ile His Ser Phe Tyr Leu His Ala Leu Arg Ile Pro Met Ser
                  100   105   110

Ala Leu Pro Tyr Cys Thr Trp Gln Glu Val Gln Ala Arg Ile Val Gln
          115   120   125

Thr Gln Lys Glu His Gln Ile Cys Ile His Lys Arg Glu Leu Thr Glu
      130   135   140

Leu Asp Ile Tyr His Arg Ile Leu Arg Phe Gln Asn Tyr Met Val Ala
145   150   155   160

Leu Val Asn Lys Ser Leu Leu Pro Leu Arg Phe Arg Leu Pro Gly Leu
                  165   170   175

Gly Glu Ala Val Phe Phe Thr Arg Gly Leu Lys Tyr Asn Phe Glu Leu
                  180   185   190

141

Ile Leu Phe Trp Gly Pro Gly Ser Leu Phe Leu Asn Glu Trp Ser Leu
        195   200   205

Lys Ala Glu Tyr Lys Arg Gly Gly Gln Arg Leu Glu Leu Ala Gln Arg
        210   215   220

Leu Ser Asn Arg Ile Leu Trp Ile Gly Ile Ala Asn Phe Leu Leu Cys
225   230   235   240

Pro Leu Ile Leu Ile Trp Gln Ile Leu Tyr Ala Phe Phe Ser Tyr Ala
        245   250   255

Glu Val Leu Lys Arg Glu Pro Gly Ala Leu Gly Ala Arg Cys Trp Ser
        260   265   270

Leu Tyr Gly Arg Cys Tyr Leu Arg His Phe Asn Glu Leu Glu His Glu
        275   280   285

Leu Gln Ser Arg Leu Asn Arg Gly Tyr Lys Pro Ala Ser Lys Tyr Met
        290   295   300

Asn Cys Phe Leu Ser Pro Leu Leu Thr Leu Leu Ala Lys Asn Gly Ala
305   310   315   320

Phe Phe Ala Gly Ser Ile Leu Ala Val Leu Ile Ala Leu Thr Ile Tyr
                325   330   335

Asp Glu Asp Val Leu Ala Val Glu His Val Leu Thr Thr Val Thr Leu
                340   345   350

Leu Gly Val Thr Val Thr Val Cys Arg Ser Phe Ile Pro Asp Gln His
        355   360   365

Met Val Phe Cys Pro Glu Gln Leu Leu Arg Val Ile Leu Ala His Ile
        370   375   380

His Tyr Met Pro Asp His Trp Gln Gly Asn Ala His Arg Ser Gln Thr
385   390   395   400

Arg Asp Glu Phe Ala Gln Leu Phe Gln Tyr Lys Ala Val Phe Ile Leu
                405   410   415

Glu Glu Leu Leu Ser Pro Ile Val Thr Pro Leu Ile Leu Ile Phe Cys
                420   425   430

Leu Arg Pro Arg Ala Leu Glu Ile Ile Asp Phe Phe Arg Asn Phe Thr
        435   440   445

142

```
Val Glu Val Val Gly Val Gly Asp Thr Cys Ser Phe Ala Gln Met Asp
    450                 455                 460

Val Arg Gln His Gly His Pro Gln Trp Leu Ser Ala Gly Gln Thr Glu
465                 470                 475                 480

Ala Ser Val Tyr Gln Gln Ala Glu Asp Gly Lys Thr Glu Leu Ser Leu
                485                 490                 495

Met His Phe Ala Ile Thr Asn Pro Gly Trp Gln Pro Pro Arg Glu Ser
            500                 505                 510

Thr Ala Phe Leu Gly Phe Leu Lys Glu Gln Val Gln Arg Asp Gly Ala
            515                 520                 525

Ala Ala Ser Leu Ala Gln Gly Gly Leu Leu Pro Glu Asn Ala Leu Phe
    530                 535                 540

Thr Ser Ile Gln Ser Leu Gln Ser Glu Ser Glu Pro Leu Ser Leu Ile
545                 550                 555                 560

Ala Asn Val Val Ala Gly Ser Ser Cys Arg Gly Pro Pro Leu Pro Arg
                565                 570                 575

Asp Leu Gln Gly Ser Arg His Arg Ala Glu Val Ala Ser Ala Leu Arg
            580                 585                 590

Ser Phe Ser Pro Leu Gln Pro Gly Gln Ala Pro Thr Gly Arg Ala His
            595                 600                 605

Ser Thr Met Thr Gly Ser Gly Val Asp Ala Arg Thr Ala Ser Ser Gly
    610                 615                 620

Ser Ser Val Trp Glu Gly Gln Leu Gln Ser Leu Val Leu Ser Glu Tyr
625                 630                 635                 640

Ala Ser Thr Glu Met Ser Leu His Ala Leu Tyr Met His Gln Leu His
                645                 650                 655

Lys Gln Gln Ala Gln Ala Glu Pro Glu Arg His Val Trp His Arg Arg
                660                 665                 670

Glu Ser Asp Glu Ser Gly Glu Ser Ala Pro Asp Glu Gly Gly Glu Gly
            675                 680                 685

Ala Arg Ala Pro Gln Ser Ile Pro Arg Ser Ala Ser Tyr Pro Cys Ala
    690                 695                 700

                                143
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Ala Pro Arg Pro Gly Ala Pro Glu Thr Thr Ala Leu His Gly Gly Phe
705                 710             715                 720

Gln Arg Arg Tyr Gly Gly Ile Thr Asp Pro Gly Thr Val Pro Arg Val
                725             730             735

Pro Ser His Phe Ser Arg Leu Pro Leu Gly Gly Trp Ala Glu Asp Gly
            740             745             750

Gln Ser Ala Ser Arg His Pro Glu Pro Val Pro Glu Glu Gly Ser Glu
        755             760             765

Asp Glu Leu Pro Pro Gln Val His Lys Val
    770             775
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<210> 204
<211> 25
<212> PRT
<213> Homo sapiens

<400> 204
Met Leu Ile Gly Glu Ile Phe Glu Leu Met Gln Phe Leu Phe Val Val
1               5               10              15

Ala Phe Thr Thr Phe Leu Val Ser Cys
            20              25
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<210> 205
<211> 753
<212> PRT
<213> Homo sapiens

<400> 205
Val Asp Tyr Asp Ile Leu Phe Ala Asn Lys Met Val Asn His Ser Leu
1               5               10              15

His Pro Thr Glu Pro Val Lys Val Thr Leu Pro Asp Ala Phe Leu Pro
            20              25              30

Ala Gln Val Cys Ser Ala Arg Ile Gln Glu Asn Gly Ser Leu Ile Thr
        35              40              45

Ile Leu Val Ile Ala Gly Val Phe Trp Ile His Arg Leu Ile Lys Phe
    50              55              60

Ile Tyr Asn Ile Cys Cys Tyr Trp Glu Ile His Ser Phe Tyr Leu His
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144

Ala Leu Arg Ile Pro Met Ser Ala Leu Pro Tyr Cys Thr Trp Gln Glu
                85   90   95

Val Gln Ala Arg Ile Val Gln Thr Gln Lys Glu His Gln Ile Cys Ile
            100   105   110

His Lys Arg Glu Leu Thr Glu Leu Asp Ile Tyr His Arg Ile Leu Arg
            115   120   125

Phe Gln Asn Tyr Met Val Ala Leu Val Asn Lys Ser Leu Leu Pro Leu
        130   135   140

Arg Phe Arg Leu Pro Gly Leu Gly Glu Ala Val Phe Phe Thr Arg Gly
145   150   155   160

Leu Lys Tyr Asn Phe Glu Leu Ile Leu Phe Trp Gly Pro Gly Ser Leu
                165   170   175

Phe Leu Asn Glu Trp Ser Leu Lys Ala Glu Tyr Lys Arg Gly Gly Gln
            180   185   190

Arg Leu Glu Leu Ala Gln Arg Leu Ser Asn Arg Ile Leu Trp Ile Gly
            195   200   205

Ile Ala Asn Phe Leu Leu Cys Pro Leu Ile Leu Ile Trp Gln Ile Leu
        210   215   220

Tyr Ala Phe Phe Ser Tyr Ala Glu Val Leu Lys Arg Glu Pro Gly Ala
225   230   235   240

Leu Gly Ala Arg Cys Trp Ser Leu Tyr Gly Arg Cys Tyr Leu Arg His
                245   250   255

Phe Asn Glu Leu Glu His Glu Leu Gln Ser Arg Leu Asn Arg Gly Tyr
            260   265   270

Lys Pro Ala Ser Lys Tyr Met Asn Cys Phe Leu Ser Pro Leu Leu Thr
            275   280   285

Leu Leu Ala Lys Asn Gly Ala Phe Phe Ala Gly Ser Ile Leu Ala Val
        290   295   300

Leu Ile Ala Leu Thr Ile Tyr Asp Glu Asp Val Leu Ala Val Glu His
305   310   315   320

Val Leu Thr Thr Val Thr Leu Leu Gly Val Thr Val Thr Val Cys Arg

145

Ser Phe Ile Pro Asp Gln His Met Val Phe Cys Pro Glu Gln Leu Leu
        340   345   350

Arg Val Ile Leu Ala His Ile His Tyr Met Pro Asp His Trp Gln Gly
        355   360   365

Asn Ala His Arg Ser Gln Thr Arg Asp Glu Phe Ala Gln Leu Phe Gln
    370   375   380

Tyr Lys Ala Val Phe Ile Leu Glu Glu Leu Leu Ser Pro Ile Val Thr
385   390   395   400

Pro Leu Ile Leu Ile Phe Cys Leu Arg Pro Arg Ala Leu Glu Ile Ile
        405   410   415

Asp Phe Phe Arg Asn Phe Thr Val Glu Val Val Gly Val Gly Asp Thr
        420   425   430

Cys Ser Phe Ala Gln Met Asp Val Arg Gln His Gly His Pro Gln Trp
        435   440   445

Leu Ser Ala Gly Gln Thr Glu Ala Ser Val Tyr Gln Gln Ala Glu Asp
    450   455   460

Gly Lys Thr Glu Leu Ser Leu Met His Phe Ala Ile Thr Asn Pro Gly
465   470   475   480

Trp Gln Pro Pro Arg Glu Ser Thr Ala Phe Leu Gly Phe Leu Lys Glu
        485   490   495

Gln Val Gln Arg Asp Gly Ala Ala Ala Ser Leu Ala Gln Gly Gly Leu
        500   505   510

Leu Pro Glu Asn Ala Leu Phe Thr Ser Ile Gln Ser Leu Gln Ser Glu
        515   520   525

Ser Glu Pro Leu Ser Leu Ile Ala Asn Val Val Ala Gly Ser Ser Cys
    530   535   540

Arg Gly Pro Pro Leu Pro Arg Asp Leu Gln Gly Ser Arg His Arg Ala
545   550   555   560

Glu Val Ala Ser Ala Leu Arg Ser Phe Ser Pro Leu Gln Pro Gly Gln
        565   570   575

Ala Pro Thr Gly Arg Ala His Ser Thr Met Thr Gly Ser Gly Val Asp

Ala Arg Thr Ala Ser Ser Gly Ser Ser Val Trp Glu Gly Gln Leu Gln
        595   600   605

Ser Leu Val Leu Ser Glu Tyr Ala Ser Thr Glu Met Ser Leu His Ala
        610   615   620

Leu Tyr Met His Gln Leu His Lys Gln Gln Ala Gln Ala Glu Pro Glu
625   630   635   640

Arg His Val Trp His Arg Arg Glu Ser Asp Glu Ser Gly Glu Ser Ala
                645   650   655

Pro Asp Glu Gly Gly Glu Gly Ala Arg Ala Pro Gln Ser Ile Pro Arg
                660   665   670

Ser Ala Ser Tyr Pro Cys Ala Ala Pro Arg Pro Gly Ala Pro Glu Thr
        675   680   685

Thr Ala Leu His Gly Gly Phe Gln Arg Arg Tyr Gly Gly Ile Thr Asp
        690   695   700

Pro Gly Thr Val Pro Arg Val Pro Ser His Phe Ser Arg Leu Pro Leu
705   710   715   720

Gly Gly Trp Ala Glu Asp Gly Gln Ser Ala Ser Arg His Pro Glu Pro
                725   730   735

Val Pro Glu Glu Gly Ser Glu Asp Glu Leu Pro Pro Gln Val His Lys
                740   745   750

Val

<210> 206
<211> 45
<212> PRT
<213> Homo sapiens

<400> 206
Val Asp Tyr Asp Ile Leu Phe Ala Asn Lys Met Val Asn His Ser Leu
  1   5   10   15

His Pro Thr Glu Pro Val Lys Val Thr Leu Pro Asp Ala Phe Leu Pro
            20   25   30

147

Ala Gln Val Cys Ser Ala Arg Ile Gln Glu Asn Gly Ser
        35   40   45

<210> 207
<211> 17
<212> PRT
<213> Homo sapiens

<400> 207
Leu Ile Thr Ile Leu Val Ile Ala Gly Val Phe Trp Ile His Arg Leu
 1   5   10   15

Ile

<210> 208
<211> 141
<212> PRT
<213> Homo sapiens

<400> 208
Lys Phe Ile Tyr Asn Ile Cys Cys Tyr Trp Glu Ile His Ser Phe Tyr
 1   5   10   15

Leu His Ala Leu Arg Ile Pro Met Ser Ala Leu Pro Tyr Cys Thr Trp
            20   25   30

Gln Glu Val Gln Ala Arg Ile Val Gln Thr Gln Lys Glu His Gln Ile
            35   40   45

Cys Ile His Lys Arg Glu Leu Thr Glu Leu Asp Ile Tyr His Arg Ile
     50   55   60

Leu Arg Phe Gln Asn Tyr Met Val Ala Leu Val Asn Lys Ser Leu Leu
 65   70   75   80

Pro Leu Arg Phe Arg Leu Pro Gly Leu Gly Glu Ala Val Phe Phe Thr
                85   90   95

Arg Gly Leu Lys Tyr Asn Phe Glu Leu Ile Leu Phe Trp Gly Pro Gly
                100   105   110

Ser Leu Phe Leu Asn Glu Trp Ser Leu Lys Ala Glu Tyr Lys Arg Gly
                115   120   125

Gly Gln Arg Leu Glu Leu Ala Gln Arg Leu Ser Asn Arg

148

<210> 209
<211> 25
<212> PRT
<213> Homo sapiens

<400> 209
Ile Leu Trp Ile Gly Ile Ala Asn Phe Leu Leu Cys Pro Leu Ile Leu
1   5   10   15

Ile Trp Gln Ile Leu Tyr Ala Phe Phe
     20   25

<210> 210
<211> 66
<212> PRT
<213> Homo sapiens

<400> 210
Ser Tyr Ala Glu Val Leu Lys Arg Glu Pro Gly Ala Leu Gly Ala Arg
1   5   10   15

Cys Trp Ser Leu Tyr Gly Arg Cys Tyr Leu Arg His Phe Asn Glu Leu
     20   25   30

Glu His Glu Leu Gln Ser Arg Leu Asn Arg Gly Tyr Lys Pro Ala Ser
    35   40   45

Lys Tyr Met Asn Cys Phe Leu Ser Pro Leu Leu Thr Leu Leu Ala Lys
  50   55   60

Asn Gly
 65

<210> 211
<211> 17
<212> PRT
<213> Homo sapiens

<400> 211
Ala Phe Phe Ala Gly Ser Ile Leu Ala Val Leu Ile Ala Leu Thr Ile
1   5   10   15

Tyr

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<212> PRT
<213> Homo sapiens

<400> 212
Asp Glu Asp Val Leu Ala Val Glu His
  1               5


<210> 213
<211> 19
<212> PRT
<213> Homo sapiens

<400> 213
Val Leu Thr Thr Val Thr Leu Leu Gly Val Thr Val Thr Val Cys Arg
  1               5                   10                  15

Ser Phe Ile


<210> 214
<211> 414
<212> PRT
<213> Homo sapiens

<400> 214
Pro Asp Gln His Met Val Phe Cys Pro Glu Gln Leu Leu Arg Val Ile
  1               5                   10                  15

Leu Ala His Ile His Tyr Met Pro Asp His Trp Gln Gly Asn Ala His
              20                  25                  30

Arg Ser Gln Thr Arg Asp Glu Phe Ala Gln Leu Phe Gln Tyr Lys Ala
          35                  40                  45

Val Phe Ile Leu Glu Glu Leu Leu Ser Pro Ile Val Thr Pro Leu Ile
      50                  55                  60

Leu Ile Phe Cys Leu Arg Pro Arg Ala Leu Glu Ile Ile Asp Phe Phe
  65                  70                  75                  80

Arg Asn Phe Thr Val Glu Val Val Gly Val Gly Asp Thr Cys Ser Phe
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85   90   95

Ala Gln Met Asp Val Arg Gln His Gly His Pro Gln Trp Leu Ser Ala
            100   105   110

Gly Gln Thr Glu Ala Ser Val Tyr Gln Gln Ala Glu Asp Gly Lys Thr
            115   120   125

Glu Leu Ser Leu Met His Phe Ala Ile Thr Asn Pro Gly Trp Gln Pro
        130   135   140

Pro Arg Glu Ser Thr Ala Phe Leu Gly Phe Leu Lys Glu Gln Val Gln
145   150   155   160

Arg Asp Gly Ala Ala Ala Ser Leu Ala Gln Gly Gly Leu Leu Pro Glu
                165   170   175

Asn Ala Leu Phe Thr Ser Ile Gln Ser Leu Gln Ser Glu Ser Glu Pro
            180   185   190

Leu Ser Leu Ile Ala Asn Val Val Ala Gly Ser Ser Cys Arg Gly Pro
        195   200   205

Pro Leu Pro Arg Asp Leu Gln Gly Ser Arg His Arg Ala Glu Val Ala
        210   215   220

Ser Ala Leu Arg Ser Phe Ser Pro Leu Gln Pro Gly Gln Ala Pro Thr
225   230   235   240

Gly Arg Ala His Ser Thr Met Thr Gly Ser Gly Val Asp Ala Arg Thr
                245   250   255

Ala Ser Ser Gly Ser Ser Val Trp Glu Gly Gln Leu Gln Ser Leu Val
                260   265   270

Leu Ser Glu Tyr Ala Ser Thr Glu Met Ser Leu His Ala Leu Tyr Met
        275   280   285

His Gln Leu His Lys Gln Gln Ala Gln Ala Glu Pro Glu Arg His Val
        290   295   300

Trp His Arg Arg Glu Ser Asp Glu Ser Gly Glu Ser Ala Pro Asp Glu
305   310   315   320

Gly Gly Glu Gly Ala Arg Ala Pro Gln Ser Ile Pro Arg Ser Ala Ser
                325   330   335

Tyr Pro Cys Ala Ala Pro Arg Pro Gly Ala Pro Glu Thr Thr Ala Leu

151

His Gly Gly Phe Gln Arg Arg Tyr Gly Gly Ile Thr Asp Pro Gly Thr
        355   360   365

Val Pro Arg Val Pro Ser His Phe Ser Arg Leu Pro Leu Gly Gly Trp
     370   375   380

Ala Glu Asp Gly Gln Ser Ala Ser Arg His Pro Glu Pro Val Pro Glu
385   390   395   400

Glu Gly Ser Glu Asp Glu Leu Pro Pro Gln Val His Lys Val
                   405   410

<210> 215
<211> 2448
<212> DNA
<213> Homo sapiens

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<210> 216
<211> 816
<212> PRT
<213> Homo sapiens

<400> 216
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Asp Ser Pro Pro Gly Glu Glu Asp Leu Leu Val His Val Ala Glu Gly
            20   25   30

Ser Lys Ser Pro Trp His His Ile Glu Asn Leu Asp Leu Phe Phe Ser
        35   40   45

Arg Val Tyr Asn Leu His Gln Lys Asn Gly Phe Thr Cys Met Leu Ile
    50   55   60

Gly Glu Ile Phe Glu Leu Met Gln Phe Leu Phe Val Val Ala Phe Thr
65   70   75   80

Thr Phe Leu Val Ser Cys Val Asp Tyr Asp Ile Leu Phe Ala Asn Lys
                85   90   95

Met Val Asn His Ser Leu His Pro Thr Glu Pro Val Lys Val Thr Leu
            100   105   110

Pro Asp Ala Phe Leu Pro Ala Gln Val Cys Ser Ala Arg Ile Gln Glu
        115   120   125

Asn Gly Ser Leu Ile Thr Ile Leu Val Ile Ala Gly Val Phe Trp Ile
    130   135   140

153
```

His Arg Leu Ile Lys Phe Ile Tyr Asn Ile Cys Cys Tyr Trp Glu Ile
145                 150                 155                 160

His Ser Phe Tyr Leu His Ala Leu Arg Ile Pro Met Ser Ala Leu Pro
            165                 170                 175

Tyr Cys Thr Trp Gln Glu Val Gln Ala Arg Ile Val Gln Thr Gln Lys
            180                 185                 190

Glu His Gln Ile Cys Ile His Lys Arg Glu Leu Thr Glu Leu Asp Ile
        195                 200                 205

Tyr His Arg Ile Leu Arg Phe Gln Asn Tyr Met Val Ala Leu Val Asn
    210                 215                 220

Lys Ser Leu Leu Pro Leu Arg Phe Arg Leu Pro Gly Leu Gly Glu Ala
225                 230                 235                 240

Val Phe Phe Thr Arg Gly Leu Lys Tyr Asn Phe Glu Leu Ile Leu Phe
            245                 250                 255

Trp Gly Pro Gly Ser Leu Phe Leu Asn Glu Trp Ser Leu Lys Ala Glu
            260                 265                 270

Tyr Lys Arg Gly Gly Gln Arg Leu Glu Leu Ala Gln Arg Leu Ser Asn
            275                 280                 285

Arg Ile Leu Trp Ile Gly Ile Ala Asn Phe Leu Leu Cys Pro Leu Ile
    290                 295                 300

Leu Ile Trp Gln Ile Leu Tyr Ala Phe Phe Ser Tyr Ala Glu Val Leu
305                 310                 315                 320

Lys Arg Glu Pro Gly Ala Leu Gly Ala Arg Cys Trp Ser Leu Tyr Gly
            325                 330                 335

Arg Cys Tyr Leu Arg His Phe Asn Glu Leu Glu His Glu Leu Gln Ser
            340                 345                 350

Arg Leu Asn Arg Gly Tyr Lys Pro Ala Ser Lys Tyr Met Asn Cys Phe
            355                 360                 365

Leu Ser Pro Leu Leu Thr Leu Leu Ala Lys Asn Gly Ala Phe Phe Ala
    370                 375                 380

Gly Ser Ile Leu Ala Val Leu Ile Ala Leu Thr Ile Tyr Asp Glu Asp
385                 390                 395                 400

154

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Val Leu Ala Val Glu His Val Leu Thr Thr Val Thr Leu Leu Gly Val
            405                 410                 415

Thr Val Thr Val Cys Arg Ser Phe Ile Pro Asp Gln His Met Val Phe
            420                 425                 430

Cys Pro Glu Gln Leu Leu Arg Val Ile Leu Ala His Ile His Tyr Met
            435                 440                 445

Pro Asp His Trp Gln Gly Asn Ala His Arg Ser Gln Thr Arg Asp Glu
            450                 455                 460

Phe Ala Gln Leu Phe Gln Tyr Lys Ala Val Phe Ile Leu Glu Glu Leu
465                 470                 475                 480

Leu Ser Pro Ile Val Thr Pro Leu Ile Leu Ile Phe Cys Leu Arg Pro
            485                 490                 495

Arg Ala Leu Glu Ile Ile Asp Phe Phe Arg Asn Phe Thr Val Glu Val
            500                 505                 510

Val Gly Val Gly Asp Thr Cys Ser Phe Ala Gln Met Asp Val Arg Gln
            515                 520                 525

His Gly His Pro Gln Trp Leu Ser Ala Gly Gln Thr Glu Ala Ser Val
            530                 535                 540

Tyr Gln Gln Ala Glu Asp Gly Lys Thr Glu Leu Ser Leu Met His Phe
545                 550                 555                 560

Ala Ile Thr Asn Pro Gly Trp Gln Pro Pro Arg Glu Ser Thr Ala Phe
            565                 570                 575

Leu Gly Phe Leu Lys Glu Gln Val Gln Arg Asp Gly Ala Ala Ala Ser
            580                 585                 590

Leu Ala Gln Gly Gly Leu Leu Pro Glu Asn Ala Leu Phe Thr Ser Ile
            595                 600                 605

Gln Ser Leu Gln Ser Glu Ser Glu Pro Leu Ser Leu Ile Ala Asn Val
            610                 615                 620

Val Ala Gly Ser Ser Cys Arg Gly Pro Pro Leu Pro Arg Asp Leu Gln
625                 630                 635                 640

Gly Ser Arg Arg Ala His Ser Thr Met Thr Gly Ser Gly Val Asp Ala
            645                 650                 655
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155

```
Arg Thr Ala Ser Ser Gly Ser Ser Val Trp Glu Gly Gln Leu Gln Ser
            660                 665                 670

Leu Val Leu Ser Glu Tyr Ala Ser Thr Glu Met Ser Leu His Ala Leu
            675                 680                 685

Tyr Met His Gln Leu His Lys Gln Gln Ala Gln Ala Glu Pro Glu Arg
    690                 695                 700

His Val Trp His Arg Arg Glu Ser Asp Glu Ser Gly Glu Ser Ala Pro
705                 710                 715                 720

Asp Glu Gly Gly Glu Gly Ala Arg Ala Pro Gln Ser Ile Pro Arg Ser
            725                 730                 735

Ala Ser Tyr Pro Cys Ala Ala Pro Arg Pro Gly Ala Pro Glu Thr Thr
            740                 745                 750

Ala Leu His Gly Gly Phe Gln Arg Arg Tyr Gly Gly Ile Thr Asp Pro
            755                 760                 765

Gly Thr Val Pro Arg Val Pro Ser His Phe Ser Arg Leu Pro Leu Gly
    770                 775                 780

Gly Trp Ala Glu Asp Gly Gln Ser Ala Ser Arg His Pro Glu Pro Val
785                 790                 795                 800

Pro Glu Glu Gly Ser Glu Asp Glu Leu Pro Pro Gln Val His Lys Val
            805                 810                 815
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<400> 217
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<210> 218
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<210> 219
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<210> 220
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<210> 221
<211> 2989
<212> DNA
<213> Homo sapiens

<400> 221

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157

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<212> DNA
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<210> 223
<211> 265
<212> PRT
<213> Homo sapiens


<400> 223
Met Asn Met Ser Val Leu Thr Leu Gln Glu Tyr Glu Phe Glu Lys Gln
 1               5                  10                  15
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158

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Phe Asn Glu Asn Glu Ala Ile Gln Trp Met Gln Glu Asn Trp Lys Lys
            20                  25                  30

Ser Phe Leu Phe Ser Ala Leu Tyr Ala Ala Phe Ile Phe Gly Gly Arg
            35                  40                  45

His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro Leu Val
        50                  55                  60

Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala Leu Arg
    65                  70                  75                  80

Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu Lys Gln
                85                  90                  95

Ser Val Cys Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys Phe Trp
            100                 105                 110

Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp Thr Ile
            115                 120                 125

Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His Trp Tyr His
    130                 135                 140

His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp Met Val
145                 150                 155                 160

Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val His Ala Val
            165                 170                 175

Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg Val Ser Arg
            180                 185                 190

Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met Leu Met
            195                 200                 205

Gly Cys Val Val Asn Tyr Leu Val Phe Cys Trp Met Gln His Asp Gln
    210                 215                 220

Cys His Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu Met Tyr Leu
225                 230                 235                 240

Ser Tyr Leu Val Leu Phe Cys His Phe Phe Phe Glu Ala Tyr Ile Gly
            245                 250                 255

Lys Met Arg Lys Thr Thr Lys Ala Glu
            260                 265
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<210> 224
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<212> PRT
<213> Homo sapiens

<400> 224
Met Asn Met Ser Val Leu Thr Leu Gln Glu Tyr Glu Phe Glu Lys Gln
 1   5   10   15

Phe Asn Glu Asn Glu Ala Ile Gln Trp Met Gln Glu Asn Trp Lys Lys
                20   25   30

Ser Phe Leu Phe Ser Ala Leu Tyr Ala Ala Phe Ile Phe Gly
        35   40   45

<210> 225
<211> 219
<212> PRT
<213> Homo sapiens

<400> 225
Gly Arg His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro
 1   5   10   15

Leu Val Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala
                20   25   30

Leu Arg Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu
        35   40   45

Lys Gln Ser Val Cys Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys
    50   55   60

Phe Trp Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp
 65   70   75   80

Thr Ile Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His Trp
                85   90   95

Tyr His His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp
            100   105   110

Met Val Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val His
            115   120   125

Ala Val Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg Val

160

Ser Arg Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met
145   150   155   160

Leu Met Gly Cys Val Val Asn Tyr Leu Val Phe Cys Trp Met Gln His
                    165   170   175

Asp Gln Cys His Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu Met
                    180   185   190

Tyr Leu Ser Tyr Leu Val Leu Phe Cys His Phe Phe Phe Glu Ala Tyr
                    195   200   205

Ile Gly Lys Met Arg Lys Thr Thr Lys Ala Glu
        210   215

<210> 226
<211> 16
<212> PRT
<213> Homo sapiens

<400> 226
Gly Arg His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro
    1   5   10   15

<210> 227
<211> 17
<212> PRT
<213> Homo sapiens

<400> 227
Leu Val Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala
    1   5   10   15

Leu

<210> 228
<211> 57
<212> PRT
<213> Homo sapiens

<400> 228
Arg Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu Lys

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Gln Ser Val Cys Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys Phe
            20                      25                      30

Trp Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp Thr
        35                      40                      45

Ile Phe Ile Ile Leu Arg Lys Gln Lys
    50                      55
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<210> 229
<211> 17
<212> PRT
<213> Homo sapiens

<400> 229
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Leu Ile Phe Leu His Trp Tyr His His Ile Thr Val Leu Leu Tyr Ser
    1                   5                       10                      15

Trp
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<210> 230
<211> 11
<212> PRT
<213> Homo sapiens

<400> 230
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Tyr Ser Tyr Lys Asp Met Val Ala Gly Gly Gly
    1                   5                       10
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<210> 231
<211> 19
<212> PRT
<213> Homo sapiens

<400> 231
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Trp Phe Met Thr Met Asn Tyr Gly Val His Ala Val Met Tyr Ser Tyr
    1                   5                       10                      15

Tyr Ala Leu
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<210> 232
<211> 10
<212> PRT
<213> Homo sapiens

<400> 232
Arg Ala Ala Gly Phe Arg Val Ser Arg Lys
1   5   10

<210> 233
<211> 24
<212> PRT
<213> Homo sapiens

<400> 233
Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met Leu Met Gly
1   5   10   15

Cys Val Val Asn Tyr Leu Val Phe
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<210> 234
<211> 14
<212> PRT
<213> Homo sapiens

<400> 234
Cys Trp Met Gln His Asp Gln Cys His Ser His Phe Gln Asn
1   5   10

<210> 235
<211> 20
<212> PRT
<213> Homo sapiens

<400> 235
Ile Phe Trp Ser Ser Leu Met Tyr Leu Ser Tyr Leu Val Leu Phe Cys
1   5   10   15

His Phe Phe Phe
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<210> 236
<211> 14

<212> PRT
<213> Homo sapiens

<400> 236
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<210> 237
<400> 237
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<210> 238
<211> 813
<212> DNA
<213> Homo sapiens

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<210> 239
<211> 265
<212> PRT
<213> Mus sp.

<400> 239
Met Asn Met Ser Val Leu Thr Leu Gln Glu Tyr Glu Phe Glu Lys Gln
  1   5   10   15

Phe Asn Glu Asn Glu Ala Ile Gln Trp Met Gln Glu Asn Trp Lys Lys
              20   25   30

Ser Phe Leu Phe Ser Ala Leu Tyr Ala Ala Phe Ile Phe Gly Gly Arg

164

His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro Leu Val
    50   55   60

Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala Leu Arg
 65   70   75   80

Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu Lys Gln
                85   90   95

Ser Val Cys Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys Phe Trp
            100   105   110

Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp Thr Ile
            115   120   125

Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His Trp Tyr His
    130   135   140

His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp Met Val
145   150   155   160

Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val His Ala Val
            165   170   175

Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg Val Ser Arg
            180   185   190

Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met Leu Met
            195   200   205

Gly Cys Val Val Asn Tyr Leu Val Phe Cys Trp Met Gln His Asp Gln
            210   215   220

Cys His Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu Met Tyr Leu
225   230   235   240

Ser Tyr Leu Val Leu Phe Cys His Phe Phe Phe Glu Ala Tyr Ile Gly
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Lys Met Arg Lys Thr Thr Lys Ala Glu
            260   265

<210> 240
<400> 240
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165

<210> 241
<211> 2032
<212> DNA
<213> Mus sp.

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tcataaattt tttaagtgac tttcacttga gaactcagaa agtcaatgta ttaagagcca 1980
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<210> 242
<211> 522
<212> DNA
<213> Mus sp.

<400> 242

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aaacagaaac tgatcttcct gcactggtac caccacatca ctgtgctcct gtactcctgg   180
tactcctaca aagacatggt cgctgggggt ggttggttca tgactatgaa ctatggcgtg   240
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tacctggtct tcaactggat gcagcatgac aacgaccagt gctactccca ctttcagaac   420
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<210> 243
<211> 174
<212> PRT
<213> Mus sp.

<400> 243

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Leu Lys Gln Ser Val Cys Asp Gln Ser Phe Tyr Asn Gly Pro Val Ser
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Lys Phe Trp Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly
                20                  25                  30

Asp Thr Ile Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His
            35                  40                  45

Trp Tyr His His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys
        50                  55                  60

Asp Met Val Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val
65                  70                  75                  80

His Ala Val Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg
                85                  90                  95

Val Ser Arg Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln
                100                 105                 110

Met Leu Met Gly Cys Val Ile Asn Tyr Leu Val Phe Asn Trp Met Gln
            115                 120                 125

His Asp Asn Asp Gln Cys Tyr Ser His Phe Gln Asn Ile Phe Trp Ser
        130                 135                 140

Ser Leu Met Tyr Leu Ser Tyr Leu Val Leu Phe Cys His Phe Phe Phe
145                 150                 155                 160
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167

Glu Ala Tyr Ile Gly Lys Val Lys Lys Ala Thr Lys Ala Glu
                165   170

<210> 244
<211> 49
<212> PRT
<213> Mus sp.

<400> 244
Leu Lys Gln Ser Val Cys Asp Gln Ser Phe Tyr Asn Gly Pro Val Ser
 1   5   10   15

Lys Phe Trp Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly
            20   25   30

Asp Thr Ile Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His
            35   40   45

Trp

<210> 245
<211> 17
<212> PRT
<213> Mus sp.

<400> 245
Tyr His His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp
 1   5   10   15

Met

<210> 246
<211> 11
<212> PRT
<213> Mus sp.

<400> 246
Val Ala Gly Gly Gly Trp Phe Met Thr Met Asn
 1   5   10

<210> 247

168

<211> 19
<212> PRT
<213> Mus sp.

<400> 247
Tyr Gly Val His Ala Val Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala
 1   5   10   15

Gly Phe Arg

<210> 248
<211> 10
<212> PRT
<213> Mus sp.

<400> 248
Val Ser Arg Lys Phe Ala Met Phe Ile Thr
 1   5   10

<210> 249
<211> 24
<212> PRT
<213> Mus sp.

<400> 249
Leu Ser Gln Ile Thr Gln Met Leu Met Gly Cys Val Ile Asn Tyr Leu
 1   5   10   15

Val Phe Asn Trp Met Gln His Asp
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<210> 250
<211> 16
<212> PRT
<213> Mus sp.

<400> 250
Asn Asp Gln Cys Tyr Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu
 1   5   10   15

<210> 251
<211> 974
<212> DNA

169

<213> Rattus sp.

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cccacgcgca tgcagacaca cccacctaca cactatctgc agatgaccag tgtcctatgc 900
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aaaaaaaaaa aaaa 974

<210> 252
<211> 432
<212> DNA
<213> Rattus sp.

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acgaaggccg ag 432

<210> 253
<211> 144
<212> PRT
<213> Rattus sp.

<400> 253
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Leu His Trp Tyr His His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser

170

Tyr Lys Asp Met Val Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr
        35   40   45

Gly Val His Ala Val Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly
        50   55   60

Phe Arg Val Ser Arg Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile
    65   70   75   80

Thr Gln Met Leu Met Gly Cys Val Ile Asn Tyr Leu Val Phe Asn Trp
                    85   90   95

Met Gln His Asp Asn Asp Gln Cys Tyr Ser His Phe Gln Asn Ile Phe
                100   105   110

Trp Ser Ser Leu Met Tyr Leu Ser Tyr Leu Leu Leu Phe Cys His Phe
            115   120   125

Phe Phe Glu Ala Tyr Ile Gly Lys Val Lys Lys Ala Thr Lys Ala Glu
    130   135   140

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<211> 1365
<212> DNA
<213> Homo sapiens

<400> 272
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ccggactccg agggtttccc gccccgtgcg ctccacaact gcccctacaa atgtatctgc 120
gctgccgacc tgctaagctg cactggccta gggctgcagg acgtgccagc cgagttacct 180
gccgctactg cggacctcga cctgagccac aacgcgctcc agcgcctgcg ccccggctgg 240
ttggcgcccc tcttccagct gcgcgccctg cacctagacc acaacgaact agatgcgctg 300
ggtcgcggcg tcttcgtcaa cgccagcggc ctgaggctgc tcgatctatc atctaacacg 360
ttgcgggcgc ttggccgcca cgacctcgac gggctggggg cgctggagaa gctgcttctg 420
ttcaataacc gcttggtgca cttggacgag catgccttcc acggcctgcg cgcgctcagc 480
catctctacc tgggctgcaa cgaactcgcc tcgttctcct cgaccacct gcacggtctg 540
agcgccaccc acctgcttac tctggacctc tcctccaacc ggctggg,aca catctccgta 600
cctgagctgg ccgcgctgcc ggccttcctc aagaacggcc tctacttgca caacaaccct 660
ttgccttgcg actgccgcct ctaccacctg ctacagcgct ggcaccagcg gggcctgagc 720
gccgtgcgcg actttgcgcg cgagtacgta tgcttggcct tcaaggtacc cgcgtcccgc 780
gtgcgcttct tccagcacag ccgcgtcttt gagaactgct cgtcggcccc agctcttggc 840
ctaaagcggc cggaagagca cctgtacgcg ctggtgggtc ggtccctgag ctttactgc 900
aacaccagcg tcccggccat gcgcattgcc tgggtttcgc cgcagcagga gcttctcagg 960
gcgccaggat cccgcgatgg cagcatcgcg gtgctggccg acggcagctt ggccataggc 1020
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174

aacgtacagg agcagcatgc gggactcttc gtgtgcctgg ccactgggcc ccgcctgcac 1080
cacaaccaga cgcacgagta caacgtgagc gtgcactttc cgcgcccaga gcccgaggct 1140
ttcaacacag gcttcaccac actgctgggc tgtgccgtgg ccttgtgct cgtgctgctc 1200
tacctgttcg ccccacccctg ccgctgctgc cgccgtgcct gccgctgcc gccgctggcc 1260
ccaaacaccc agcccgctcc aagagctgag ccgcacaagt cctcagtact cagcaccaca 1320
ccgccagacg cacccagccc gcaaggccaa gcgtccacaa gcacg 1365

<210> 273
<211> 455
<212> PRT
<213> Homo sapiens

<400> 273
Met Thr Trp Leu Val Leu Leu Gly Thr Leu Leu Cys Met Leu Arg Val
 1   5   10   15

Gly Leu Gly Thr Pro Asp Ser Glu Gly Phe Pro Pro Arg Ala Leu His
             20   25   30

Asn Cys Pro Tyr Lys Cys Ile Cys Ala Ala Asp Leu Leu Ser Cys Thr
         35   40   45

Gly Leu Gly Leu Gln Asp Val Pro Ala Glu Leu Pro Ala Ala Thr Ala
     50   55   60

Asp Leu Asp Leu Ser His Asn Ala Leu Gln Arg Leu Arg Pro Gly Trp
 65   70   75   80

Leu Ala Pro Leu Phe Gln Leu Arg Ala Leu His Leu Asp His Asn Glu
                 85   90   95

Leu Asp Ala Leu Gly Arg Gly Val Phe Val Asn Ala Ser Gly Leu Arg
             100   105   110

Leu Leu Asp Leu Ser Ser Asn Thr Leu Arg Ala Leu Gly Arg His Asp
         115   120   125

Leu Asp Gly Leu Gly Ala Leu Glu Lys Leu Leu Leu Phe Asn Asn Arg
     130   135   140

Leu Val His Leu Asp Glu His Ala Phe His Gly Leu Arg Ala Leu Ser
145   150   155   160

His Leu Tyr Leu Gly Cys Asn Glu Leu Ala Ser Phe Ser Phe Asp His
                 165   170   175

Leu His Gly Leu Ser Ala Thr His Leu Leu Thr Leu Asp Leu Ser Ser

175

Asn Arg Leu Gly His Ile Ser Val Pro Glu Leu Ala Ala Leu Pro Ala
        195   200   205

Phe Leu Lys Asn Gly Leu Tyr Leu His Asn Asn Pro Leu Pro Cys Asp
        210   215   220

Cys Arg Leu Tyr His Leu Leu Gln Arg Trp His Gln Arg Gly Leu Ser
225   230   235   240

Ala Val Arg Asp Phe Ala Arg Glu Tyr Val Cys Leu Ala Phe Lys Val
                245   250   255

Pro Ala Ser Arg Val Arg Phe Phe Gln His Ser Arg Val Phe Glu Asn
                260   265   270

Cys Ser Ser Ala Pro Ala Leu Gly Leu Lys Arg Pro Glu Glu His Leu
        275   280   285

Tyr Ala Leu Val Gly Arg Ser Leu Arg Leu Tyr Cys Asn Thr Ser Val
        290   295   300

Pro Ala Met Arg Ile Ala Trp Val Ser Pro Gln Gln Glu Leu Leu Arg
305   310   315   320

Ala Pro Gly Ser Arg Asp Gly Ser Ile Ala Val Leu Ala Asp Gly Ser
                325   330   335

Leu Ala Ile Gly Asn Val Gln Glu Gln His Ala Gly Leu Phe Val Cys
                340   345   350

Leu Ala Thr Gly Pro Arg Leu His His Asn Gln Thr His Glu Tyr Asn
        355   360   365

Val Ser Val His Phe Pro Arg Pro Glu Pro Glu Ala Phe Asn Thr Gly
        370   375   380

Phe Thr Thr Leu Leu Gly Cys Ala Val Gly Leu Val Leu Val Leu Leu
385   390   395   400

Tyr Leu Phe Ala Pro Pro Cys Arg Cys Cys Arg Arg Ala Cys Pro Leu
                405   410   415

Pro Pro Leu Ala Pro Asn Thr Gln Pro Ala Pro Arg Ala Glu Pro His
                420   425   430

Lys Ser Ser Val Leu Ser Thr Thr Pro Pro Asp Ala Pro Ser Pro Gln

Gly Gln Ala Ser Thr Ser Thr
   450   455

<210> 274
<211> 20
<212> PRT
<213> Homo sapiens

<400> 274
Met Thr Trp Leu Val Leu Leu Gly Thr Leu Leu Cys Met Leu Arg Val
  1   5   10   15

Gly Leu Gly Thr
           20

<210> 275
<211> 435
<212> PRT
<213> Homo sapiens

<400> 275
Pro Asp Ser Glu Gly Phe Pro Pro Arg Ala Leu His Asn Cys Pro Tyr
  1   5   10   15

Lys Cys Ile Cys Ala Ala Asp Leu Leu Ser Cys Thr Gly Leu Gly Leu
           20   25   30

Gln Asp Val Pro Ala Glu Leu Pro Ala Ala Thr Ala Asp Leu Asp Leu
        35   40   45

Ser His Asn Ala Leu Gln Arg Leu Arg Pro Gly Trp Leu Ala Pro Leu
     50   55   60

Phe Gln Leu Arg Ala Leu His Leu Asp His Asn Glu Leu Asp Ala Leu
 65   70   75   80

Gly Arg Gly Val Phe Val Asn Ala Ser Gly Leu Arg Leu Leu Asp Leu
                85   90   95

Ser Ser Asn Thr Leu Arg Ala Leu Gly Arg His Asp Leu Asp Gly Leu
           100   105   110

Gly Ala Leu Glu Lys Leu Leu Leu Phe Asn Asn Arg Leu Val His Leu
        115   120   125

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Asp Glu His Ala Phe His Gly Leu Arg Ala Leu Ser His Leu Tyr Leu
    130                 135                 140

Gly Cys Asn Glu Leu Ala Ser Phe Ser Phe Asp His Leu His Gly Leu
145                 150                 155                 160

Ser Ala Thr His Leu Leu Thr Leu Asp Leu Ser Ser Asn Arg Leu Gly
                165                 170                 175

His Ile Ser Val Pro Glu Leu Ala Ala Leu Pro Ala Phe Leu Lys Asn
                180                 185                 190

Gly Leu Tyr Leu His Asn Asn Pro Leu Pro Cys Asp Cys Arg Leu Tyr
            195                 200                 205

His Leu Leu Gln Arg Trp His Gln Arg Gly Leu Ser Ala Val Arg Asp
    210                 215                 220

Phe Ala Arg Glu Tyr Val Cys Leu Ala Phe Lys Val Pro Ala Ser Arg
225                 230                 235                 240

Val Arg Phe Phe Gln His Ser Arg Val Phe Glu Asn Cys Ser Ser Ala
                245                 250                 255

Pro Ala Leu Gly Leu Lys Arg Pro Glu Glu His Leu Tyr Ala Leu Val
                260                 265                 270

Gly Arg Ser Leu Arg Leu Tyr Cys Asn Thr Ser Val Pro Ala Met Arg
            275                 280                 285

Ile Ala Trp Val Ser Pro Gln Gln Glu Leu Leu Arg Ala Pro Gly Ser
    290                 295                 300

Arg Asp Gly Ser Ile Ala Val Leu Ala Asp Gly Ser Leu Ala Ile Gly
305                 310                 315                 320

Asn Val Gln Glu Gln His Ala Gly Leu Phe Val Cys Leu Ala Thr Gly
                325                 330                 335

Pro Arg Leu His His Asn Gln Thr His Glu Tyr Asn Val Ser Val His
            340                 345                 350

Phe Pro Arg Pro Glu Pro Glu Ala Phe Asn Thr Gly Phe Thr Thr Leu
            355                 360                 365

Leu Gly Cys Ala Val Gly Leu Val Leu Val Leu Leu Tyr Leu Phe Ala
    370                 375                 380

                              178
```

Pro Pro Cys Arg Cys Cys Arg Arg Ala Cys Pro Leu Pro Pro Leu Ala
385   390   395   400

Pro Asn Thr Gln Pro Ala Pro Arg Ala Glu Pro His Lys Ser Ser Val
                405   410   415

Leu Ser Thr Thr Pro Pro Asp Ala Pro Ser Pro Gln Gly Gln Ala Ser
            420   425   430

Thr Ser Thr
        435

<210> 276
<211> 363
<212> PRT
<213> Homo sapiens

<400> 276
Pro Asp Ser Glu Gly Phe Pro Pro Arg Ala Leu His Asn Cys Pro Tyr
 1   5   10   15

Lys Cys Ile Cys Ala Ala Asp Leu Leu Ser Cys Thr Gly Leu Gly Leu
            20   25   30

Gln Asp Val Pro Ala Glu Leu Pro Ala Ala Thr Ala Asp Leu Asp Leu
        35   40   45

Ser His Asn Ala Leu Gln Arg Leu Arg Pro Gly Trp Leu Ala Pro Leu
    50   55   60

Phe Gln Leu Arg Ala Leu His Leu Asp His Asn Glu Leu Asp Ala Leu
 65   70   75   80

Gly Arg Gly Val Phe Val Asn Ala Ser Gly Leu Arg Leu Leu Asp Leu
            85   90   95

Ser Ser Asn Thr Leu Arg Ala Leu Gly Arg His Asp Leu Asp Gly Leu
            100   105   110

Gly Ala Leu Glu Lys Leu Leu Leu Phe Asn Asn Arg Leu Val His Leu
        115   120   125

Asp Glu His Ala Phe His Gly Leu Arg Ala Leu Ser His Leu Tyr Leu
    130   135   140

Gly Cys Asn Glu Leu Ala Ser Phe Ser Phe Asp His Leu His Gly Leu

179

Ser Ala Thr His Leu Leu Thr Leu Asp Leu Ser Ser Asn Arg Leu Gly
            165   170   175

His Ile Ser Val Pro Glu Leu Ala Ala Leu Pro Ala Phe Leu Lys Asn
            180   185   190

Gly Leu Tyr Leu His Asn Asn Pro Leu Pro Cys Asp Cys Arg Leu Tyr
            195   200   205

His Leu Leu Gln Arg Trp His Gln Arg Gly Leu Ser Ala Val Arg Asp
    210   215   220

Phe Ala Arg Glu Tyr Val Cys Leu Ala Phe Lys Val Pro Ala Ser Arg
225   230   235   240

Val Arg Phe Phe Gln His Ser Arg Val Phe Glu Asn Cys Ser Ser Ala
            245   250   255

Pro Ala Leu Gly Leu Lys Arg Pro Glu Glu His Leu Tyr Ala Leu Val
            260   265   270

Gly Arg Ser Leu Arg Leu Tyr Cys Asn Thr Ser Val Pro Ala Met Arg
            275   280   285

Ile Ala Trp Val Ser Pro Gln Gln Glu Leu Leu Arg Ala Pro Gly Ser
    290   295   300

Arg Asp Gly Ser Ile Ala Val Leu Ala Asp Gly Ser Leu Ala Ile Gly
305   310   315   320

Asn Val Gln Glu Gln His Ala Gly Leu Phe Val Cys Leu Ala Thr Gly
            325   330   335

Pro Arg Leu His His Asn Gln Thr His Glu Tyr Asn Val Ser Val His
            340   345   350

Phe Pro Arg Pro Glu Pro Glu Ala Phe Asn Thr
    355   360

<210> 277
<211> 20
<212> PRT
<213> Homo sapiens

<400> 277

180

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Gly Phe Thr Thr Leu Leu Gly Cys Ala Val Gly Leu Val Leu Val Leu
 1               5                  10                  15

Leu Tyr Leu Phe
             20


<210> 278
<211> 52
<212> PRT
<213> Homo sapiens

<400> 278
Ala Pro Pro Cys Arg Cys Cys Arg Arg Ala Cys Pro Leu Pro Pro Leu
 1               5                  10                  15

Ala Pro Asn Thr Gln Pro Ala Pro Arg Ala Glu Pro His Lys Ser Ser
             20                  25                  30

Val Leu Ser Thr Thr Pro Pro Asp Ala Pro Ser Pro Gln Gly Gln Ala
             35                  40                  45

Ser Thr Ser Thr
      50


<210> 279
<211> 1518
<212> DNA
<213> Homo sapiens

<400> 279
gtcgacccac gcgtccggcg aaccccagcg tccgccgaca tggcctggac caagtaccag 60
ctgttcctgg ccgggctcat gcttgttacc ggctccatca acacgctctc ggcaaaatgg 120
gcggacaatt tcatggccga gggctgtgga gggagcaagg agcacagctt ccagcatccc 180
ttcctccagg cagtgggcat gttcctggga gaattctcct gcctggctgc cttctacctc 240
ctccgatgca gagctgcagg gcaatcagac tccagcgtag accccccagca gcccttcaac 300
cctcttcttt tcctgccccc agcgctctgt gacatgacag gaccagcct catgtatgtg 360
gctctgaaca tgaccagtgc ctccagcttc cagatgctgc ggggtgcagt gatcatattc 420
actggcctgt tctcggtggc cttcctgggc cggaggctgg tgctgagcca gtggctgggc 480
atcctagcca ccatcgcggg gctggtggtc gtgggcctgg ctgacctcct gagcaagcac 540
gacagtcagc acaagctcag cgaagtgatc acaggggacc tgttgatcat catggcccag 600
atcatcgttg ccatccagat ggtgctagag gagaagttcg tctacaaaca caatgtgcac 660
ccactgcggg cagttggcac tgagggcctc tttggctttg tgatcctctc cctgctgctg 720
gtgcccatgt actacatccc cgccggctcc ttcagcggaa accctgtgtg gacactggag 780
gatgcattgg acgccttctg ccaggtgggc cagcagccgc tcattgccgt ggcactgctg 840
ggcaacatca gcagcattgc cttcttcaac ttcgcaggca tcagcgtcac caaggaactg 900
agcgccacca cccgcatggt gttggacagc ttgcgcaccg ttgtcatctg ggcactgagc 960
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181

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ctggcactgg gctgggaggc cttccatgca ctgcagatcc ttggcttcct catactcctt 1020
ataggcactg ccctctacaa tgggctacac cgtccgctgc tgggccgcct gtccaggggc 1080
cggcccctgg cagaggagag cgagcaggag agactgctgg gtggcacccg cactcccatc 1140
aatgatgcca gctgaggttc cctggaggct tctactgcca cccgggtgct ccttctccct 1200
gagactgagg ccacacaggc tggtgtgggccc cgaatgccct atccccaagg cctcaccctg 1260
tcccctccct gcagaacccc cagggcagct gctgccacag aagataacaa cacccaagtc 1320
ctctttttct cactaccacc tgcagggtgg tgttacccag cccccacaag cctgagtgca 1380
gtggcagacc tcagctctct ggacccctcc tacagcacta gagctaaatc atgaagttga 1440
attgtaggaa tttaccaccg tagtgtatct gaatcataaa ctagattatc ataaaaaaaa 1500
aaaaaaaagg gcggccgc 1518
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<210> 280
<211> 1113
<212> DNA
<213> Homo sapiens
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<400> 280
atggcctgga ccaagtacca gctgttcctg gccgggctca tgcttgttac cggctccatc 60
aacacgctct cggcaaaatg ggcggacaat ttcatggccg agggctgtgg agggagcaag 120
gagcacagct tccagcatcc cttcctccag gcagtgggca tgttcctggg agaattctcc 180
tgcctggctg ccttctacct cctccgatgc agagctgcag ggcaatcaga ctccagcgta 240
gacccccagc agcccttcaa ccctcttctt ttcctgcccc cagcgctctg tgacatgaca 300
gggaccagcc tcatgtatgt ggctctgaac atgaccagtg cctccagctt ccagatgctg 360
cggggtgcag tgatcatatt cactggcctg ttctcggtgg ccttcctggg ccggaggctg 420
gtgctgagcc agtggctggg catcctagcc accatcgcgg ggctggtggt cgtgggcctg 480
gctgacctcc tgagcaagca cgacagtcag cacaagctca gcgaagtgat cacaggggac 540
ctgttgatca tcatggccca gatcatcgtt gccatccaga tggtgctaga ggagaagttc 600
gtctacaaac acaatgtgca cccactgcgg gcagttggca ctgagggcct ctttggcttt 660
gtgatcctct ccctgctgct ggtgcccatg tactacatcc ccgccggctc cttcagcgga 720
aaccctcgtg ggacactgga ggatgcattg acgccttct gccaggtggg ccagcagccg 780
ctcattgccg tggcactgct gggcaacatc agcagcattg ccttcttcaa cttcgcaggc 840
atcagcgtca ccaaggaact gagcgccacc acccgcatgg tgttggacag cttgcgcacc 900
gttgtcatct gggcactgag cctggcactg gctgggagg ccttccatgc actgcagatc 960
cttggcttcc tcatactcct tataggcact gccctctaca atgggctaca ccgtccgctg 1020
ctgggccgcc tgtccagggg ccggcccctg cagaggagag cgagcagga gagactgctg 1080
ggtggcaccc gcactcccat caatgatgcc agc 1113
```

```
<210> 281
<211> 371
<212> PRT
<213> Homo sapiens
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<400> 281
Met Ala Trp Thr Lys Tyr Gln Leu Phe Leu Ala Gly Leu Met Leu Val
 1               5                  10                  15
```

182

```
Thr Gly Ser Ile Asn Thr Leu Ser Ala Lys Trp Ala Asp Asn Phe Met
            20                  25                  30

Ala Glu Gly Cys Gly Gly Ser Lys Glu His Ser Phe Gln His Pro Phe
            35                  40                  45

Leu Gln Ala Val Gly Met Phe Leu Gly Glu Phe Ser Cys Leu Ala Ala
        50                  55                  60

Phe Tyr Leu Leu Arg Cys Arg Ala Ala Gly Gln Ser Asp Ser Ser Val
65                  70                  75                  80

Asp Pro Gln Gln Pro Phe Asn Pro Leu Leu Phe Leu Pro Pro Ala Leu
                85                  90                  95

Cys Asp Met Thr Gly Thr Ser Leu Met Tyr Val Ala Leu Asn Met Thr
            100                 105                 110

Ser Ala Ser Ser Phe Gln Met Leu Arg Gly Ala Val Ile Ile Phe Thr
            115                 120                 125

Gly Leu Phe Ser Val Ala Phe Leu Gly Arg Arg Leu Val Leu Ser Gln
    130                 135                 140

Trp Leu Gly Ile Leu Ala Thr Ile Ala Gly Leu Val Val Val Gly Leu
145                 150                 155                 160

Ala Asp Leu Leu Ser Lys His Asp Ser Gln His Lys Leu Ser Glu Val
                165                 170                 175

Ile Thr Gly Asp Leu Leu Ile Ile Met Ala Gln Ile Ile Val Ala Ile
            180                 185                 190

Gln Met Val Leu Glu Glu Lys Phe Val Tyr Lys His Asn Val His Pro
            195                 200                 205

Leu Arg Ala Val Gly Thr Glu Gly Leu Phe Gly Phe Val Ile Leu Ser
    210                 215                 220

Leu Leu Leu Val Pro Met Tyr Tyr Ile Pro Ala Gly Ser Phe Ser Gly
225                 230                 235                 240

Asn Pro Arg Gly Thr Leu Glu Asp Ala Leu Asp Ala Phe Cys Gln Val
            245                 250                 255

Gly Gln Gln Pro Leu Ile Ala Val Ala Leu Leu Gly Asn Ile Ser Ser
            260                 265                 270
```

183

Ile Ala Phe Phe Asn Phe Ala Gly Ile Ser Val Thr Lys Glu Leu Ser
          275   280   285

Ala Thr Thr Arg Met Val Leu Asp Ser Leu Arg Thr Val Val Ile Trp
          290   295   300

Ala Leu Ser Leu Ala Leu Gly Trp Glu Ala Phe His Ala Leu Gln Ile
305   310   315   320

Leu Gly Phe Leu Ile Leu Leu Ile Gly Thr Ala Leu Tyr Asn Gly Leu
                325   330   335

His Arg Pro Leu Leu Gly Arg Leu Ser Arg Gly Arg Pro Leu Ala Glu
          340   345   350

Glu Ser Glu Gln Glu Arg Leu Leu Gly Gly Thr Arg Thr Pro Ile Asn
          355   360   365

Asp Ala Ser
    370

<210> 282
<211> 18
<212> PRT
<213> Homo sapiens

<400> 282
Met Ala Trp Thr Lys Tyr Gln Leu Phe Leu Ala Gly Leu Met Leu Val
    1   5   10   15

Thr Gly

<210> 283
<211> 353
<212> PRT
<213> Homo sapiens

<400> 283
Ser Ile Asn Thr Leu Ser Ala Lys Trp Ala Asp Asn Phe Met Ala Glu
    1   5   10   15

Gly Cys Gly Gly Ser Lys Glu His Ser Phe Gln His Pro Phe Leu Gln
                20   25   30

Ala Val Gly Met Phe Leu Gly Glu Phe Ser Cys Leu Ala Ala Phe Tyr

Leu Leu Arg Cys Arg Ala Ala Gly Gln Ser Asp Ser Ser Val Asp Pro
    50   55   60

Gln Gln Pro Phe Asn Pro Leu Leu Phe Leu Pro Pro Ala Leu Cys Asp
65   70   75   80

Met Thr Gly Thr Ser Leu Met Tyr Val Ala Leu Asn Met Thr Ser Ala
                  85   90   95

Ser Ser Phe Gln Met Leu Arg Gly Ala Val Ile Ile Phe Thr Gly Leu
              100   105   110

Phe Ser Val Ala Phe Leu Gly Arg Arg Leu Val Leu Ser Gln Trp Leu
          115   120   125

Gly Ile Leu Ala Thr Ile Ala Gly Leu Val Val Val Gly Leu Ala Asp
        130   135   140

Leu Leu Ser Lys His Asp Ser Gln His Lys Leu Ser Glu Val Ile Thr
145   150   155   160

Gly Asp Leu Leu Ile Ile Met Ala Gln Ile Ile Val Ala Ile Gln Met
                  165   170   175

Val Leu Glu Glu Lys Phe Val Tyr Lys His Asn Val His Pro Leu Arg
              180   185   190

Ala Val Gly Thr Glu Gly Leu Phe Gly Phe Val Ile Leu Ser Leu Leu
          195   200   205

Leu Val Pro Met Tyr Tyr Ile Pro Ala Gly Ser Phe Ser Gly Asn Pro
    210   215   220

Arg Gly Thr Leu Glu Asp Ala Leu Asp Ala Phe Cys Gln Val Gly Gln
225   230   235   240

Gln Pro Leu Ile Ala Val Ala Leu Leu Gly Asn Ile Ser Ser Ile Ala
                  245   250   255

Phe Phe Asn Phe Ala Gly Ile Ser Val Thr Lys Glu Leu Ser Ala Thr
              260   265   270

Thr Arg Met Val Leu Asp Ser Leu Arg Thr Val Val Ile Trp Ala Leu
        275   280   285

Ser Leu Ala Leu Gly Trp Glu Ala Phe His Ala Leu Gln Ile Leu Gly

Phe Leu Ile Leu Leu Ile Gly Thr Ala Leu Tyr Asn Gly Leu His Arg
305   310   315   320

Pro Leu Leu Gly Arg Leu Ser Arg Gly Arg Pro Leu Ala Glu Glu Ser
                325   330   335

Glu Gln Glu Arg Leu Leu Gly Gly Thr Arg Thr Pro Ile Asn Asp Ala
                340   345   350

Ser

<210> 284
<211> 29
<212> PRT
<213> Homo sapiens

<400> 284
Ser Ile Asn Thr Leu Ser Ala Lys Trp Ala Asp Asn Phe Met Ala Glu
  1   5   10   15

Gly Cys Gly Gly Ser Lys Glu His Ser Phe Gln His Pro
                20   25

<210> 285
<211> 9
<212> PRT
<213> Homo sapiens

<400> 285
Asn Met Thr Ser Ala Ser Ser Phe Gln
  1   5

<210> 286
<211> 14
<212> PRT
<213> Homo sapiens

<400> 286
Asp Leu Leu Ser Lys His Asp Ser Gln His Lys Leu Ser Glu
  1   5   10

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<210> 287
<211> 27
<212> PRT
<213> Homo sapiens

<400> 287
Pro Ala Gly Ser Phe Ser Gly Asn Pro Arg Gly Thr Leu Glu Asp Ala
 1               5                   10                  15

Leu Asp Ala Phe Cys Gln Val Gly Gln Gln Pro
             20                  25


<210> 288
<211> 7
<212> PRT
<213> Homo sapiens

<400> 288
Glu Ala Phe His Ala Leu Gln
 1               5


<210> 289
<211> 21
<212> PRT
<213> Homo sapiens

<400> 289
Phe Leu Gln Ala Val Gly Met Phe Leu Gly Glu Phe Ser Cys Leu Ala
 1               5                   10                  15

Ala Phe Tyr Leu Leu
             20


<210> 290
<211> 21
<212> PRT
<213> Homo sapiens

<400> 290
Leu Leu Phe Leu Pro Pro Ala Leu Cys Asp Met Thr Gly Thr Ser Leu
 1               5                   10                  15

Met Tyr Val Ala Leu
             20
```

<210> 291
<211> 19
<212> PRT
<213> Homo sapiens

<400> 291
Met Leu Arg Gly Ala Val Ile Ile Phe Thr Gly Leu Phe Ser Val Ala
 1   5   10   15

Phe Leu Gly

<210> 292
<211> 17
<212> PRT
<213> Homo sapiens

<400> 292
Trp Leu Gly Ile Leu Ala Thr Ile Ala Gly Leu Val Val Val Gly Leu
 1   5   10   15

Ala

<210> 293
<211> 17
<212> PRT
<213> Homo sapiens

<400> 293
Val Ile Thr Gly Asp Leu Leu Ile Ile Met Ala Gln Ile Ile Val Ala
 1   5   10   15

Ile

<210> 294
<211> 18
<212> PRT
<213> Homo sapiens

<400> 294
Gly Leu Phe Gly Phe Val Ile Leu Ser Leu Leu Leu Val Pro Met Tyr
 1   5   10   15

Tyr Ile

<210> 295
<211> 23
<212> PRT
<213> Homo sapiens

<400> 295
Leu Ile Ala Val Ala Leu Leu Gly Asn Ile Ser Ser Ile Ala Phe Phe
1   5   10   15

Asn Phe Ala Gly Ile Ser Val
            20

<210> 296
<211> 20
<212> PRT
<213> Homo sapiens

<400> 296
Met Val Leu Asp Ser Leu Arg Thr Val Val Ile Trp Ala Leu Ser Leu
1   5   10   15

Ala Leu Gly Trp
            20

<210> 297
<211> 17
<212> PRT
<213> Homo sapiens

<400> 297
Ile Leu Gly Phe Leu Ile Leu Leu Ile Gly Thr Ala Leu Tyr Asn Gly
1   5   10   15

Leu

<210> 298
<211> 20
<212> PRT
<213> Homo sapiens

189

```
<400> 298
Arg Cys Arg Ala Ala Gly Gln Ser Asp Ser Ser Val Asp Pro Gln Gln
  1               5                  10                  15

Pro Phe Asn Pro
            20


<210> 299
<211> 7
<212> PRT
<213> Homo sapiens

<400> 299
Arg Arg Leu Val Leu Ser Gln
  1               5


<210> 300
<211> 24
<212> PRT
<213> Homo sapiens

<400> 300
0 Gln Met Val Leu Glu Glu Lys Phe Val Tyr Lys His Asn Val His
  1l   e   a   e  5l   l   y   h   a 10y   y   i   s   a 15i


<210> 301
<211> 9
<212> PRT
<213> Homo sapiens

<400> 301
Thr Lys Glu Leu Ser Ala Thr Thr Arg
  1               5


<210> 302
<211> 35
<212> PRT
<213> Homo sapiens

<400> 302
His Arg Pro Leu Leu Gly Arg Leu Ser Arg Gly Arg Pro Leu Ala Glu
  1               5                  10                  15
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Glu Ser Glu Gln Glu Arg Leu Leu Gly Gly Thr Arg Thr Pro Ile Asn
            20                  25                  30

Asp Ala Ser
         35


<210> 303
<211> 2811
<212> DNA
<213> Homo sapiens


<400> 303
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gaggtgtggt ggaaccttgt gccgcgtaag acagtgtctt ctggggagct ggccacggta 180
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actgggcttc tgtacgtggg cgcccgagag gccctgtttg ccttcagcat ggaggccctg 300
gagctgcaag gagcgatctc ctgggaggcc cccgtggaga agaagactga gtgtatccag 360
aaagggaaga caaccagac cgagtgcttc aacttcatcc gcttcctgca gccctacaat 420
gcctcccacc tgtacgtctg tggcacctac gccttccagc ccaagtgcac ctacgtcgtg 480
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ggaggtgtag ctcctacttt tgcacaggca ccagctacct caggggacatg gcacgggcac 2040
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                                  191

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tgtggacaat ggcatactct cttccagccc taggaggagg gctcctaaca gtgtaactta 2760
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<210> 304
<211> 729
<212> DNA
<213> Homo sapiens

<400> 304
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cccactgggc ttctgtacgt gggcgcccga gaggccctgt ttgccttcag catggaggcc 240
ctggagctgc aaggagcgat ctcctgggag gcccccgtgg agaagaagac tgagtgtatc 300
cagaaaggga gaacaacca gaccgagtgc ttcaacttca tccgcttcct gcagccctac 360
aatgcctccc acctgtacgt ctgtggcacc tacgccttcc agcccaagtg cacctacgtc 420
gtgagtgctg ccctcctacc tcggtgtccc cagccccccg ccctcctcac ccttctctgg 480
actcgtggat gtggcccaca gagccctgcc cttaagcatc tcctcatcac ctctctctct 540
gtccttagaa catgctcacc ttcactttgg agcatggaga gtttgaagat gggaagggca 600
agtgtcccta tgacccagct aagggccatg ctggccttct tgtggatggt gagctgtact 660
cggccacact caacaacttc ctgggcacgg aacccattat cctgcgtaac atggggcccc 720
accactcca                                                        729
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<210> 305
<211> 243
<212> PRT
<213> Homo sapiens

<400> 305
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Met Ala Pro His Trp Ala Val Trp Leu Leu Ala Ala Arg Leu Trp Gly
 1               5                  10                  15

Leu Gly Ile Gly Ala Glu Val Trp Trp Asn Leu Val Pro Arg Lys Thr
             20                  25                  30

Val Ser Ser Gly Glu Leu Ala Thr Val Val Arg Arg Phe Ser Gln Thr
```

192

Gly Ile Gln Asp Phe Leu Thr Leu Thr Leu Thr Glu Pro Thr Gly Leu
        50   55   60

Leu Tyr Val Gly Ala Arg Glu Ala Leu Phe Ala Phe Ser Met Glu Ala
    65   70   75   80

Leu Glu Leu Gln Gly Ala Ile Ser Trp Glu Ala Pro Val Glu Lys Lys
                    85   90   95

Thr Glu Cys Ile Gln Lys Gly Lys Asn Asn Gln Thr Glu Cys Phe Asn
                100   105   110

Phe Ile Arg Phe Leu Gln Pro Tyr Asn Ala Ser His Leu Tyr Val Cys
            115   120   125

Gly Thr Tyr Ala Phe Gln Pro Lys Cys Thr Tyr Val Val Ser Ala Ala
        130   135   140

Leu Leu Pro Arg Cys Pro Gln Pro Pro Ala Leu Leu Thr Leu Leu Trp
145   150   155   160

Thr Arg Gly Cys Gly Pro Gln Ser Pro Ala Leu Lys His Leu Leu Ile
                165   170   175

Thr Ser Leu Ser Val Leu Arg Thr Cys Ser Pro Ser Leu Trp Ser Met
                180   185   190

Glu Ser Leu Lys Met Gly Arg Ala Ser Val Pro Met Thr Gln Leu Arg
                195   200   205

Ala Met Leu Ala Phe Leu Trp Met Val Ser Cys Thr Arg Pro His Ser
        210   215   220

Thr Thr Ser Trp Ala Arg Asn Pro Leu Ser Cys Val Thr Trp Gly Pro
225   230   235   240

Thr Thr Pro

<210> 306
<211> 20
<212> PRT
<213> Homo sapiens

<400> 306

Met Ala Pro His Trp Ala Val Trp Leu Leu Ala Ala Arg Leu Trp Gly
1   5   10   15

Leu Gly Ile Gly
            20

<210> 307
<211> 223
<212> PRT
<213> Homo sapiens

<400> 307
Ala Glu Val Trp Trp Asn Leu Val Pro Arg Lys Thr Val Ser Ser Gly
1   5   10   15

Glu Leu Ala Thr Val Val Arg Arg Phe Ser Gln Thr Gly Ile Gln Asp
            20   25   30

Phe Leu Thr Leu Thr Leu Thr Glu Pro Thr Gly Leu Leu Tyr Val Gly
            35   40   45

Ala Arg Glu Ala Leu Phe Ala Phe Ser Met Glu Ala Leu Glu Leu Gln
        50   55   60

Gly Ala Ile Ser Trp Glu Ala Pro Val Glu Lys Lys Thr Glu Cys Ile
    65   70   75   80

Gln Lys Gly Lys Asn Asn Gln Thr Glu Cys Phe Asn Phe Ile Arg Phe
                85   90   95

Leu Gln Pro Tyr Asn Ala Ser His Leu Tyr Val Cys Gly Thr Tyr Ala
                100   105   110

Phe Gln Pro Lys Cys Thr Tyr Val Val Ser Ala Ala Leu Leu Pro Arg
                115   120   125

Cys Pro Gln Pro Pro Ala Leu Leu Thr Leu Leu Trp Thr Arg Gly Cys
        130   135   140

Gly Pro Gln Ser Pro Ala Leu Lys His Leu Leu Ile Thr Ser Leu Ser
145   150   155   160

Val Leu Arg Thr Cys Ser Pro Ser Leu Trp Ser Met Glu Ser Leu Lys
                165   170   175

Met Gly Arg Ala Ser Val Pro Met Thr Gln Leu Arg Ala Met Leu Ala
                180   185   190

194

Phe Leu Trp Met Val Ser Cys Thr Arg Pro His Ser Thr Thr Ser Trp
        195   200   205

Ala Arg Asn Pro Leu Ser Cys Val Thr Trp Gly Pro Thr Thr Pro
        210   215   220

<210> 308
<211> 2498
<212> DNA
<213> Homo sapiens

<400> 308
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ggaaccgccc caagaagagc ctctggcccg ggggctgctg aacatgtgc gggggggacac 180
agtttgtttg acagttgcca gactatgttt acgcttctgg ttctactcag ccaactgccc 240
acagttaccc tggggtttcc tcattgcgca agaggtccaa aggcttctaa gcatgcggga 300
gaagaagtgt ttacatcaaa agaagaagca aactttttca tacatagacg ccttctgtat 360
aatagatttg atctggagct cttcactccc ggcaacctag aaagagagtg caatgaagaa 420
ctttgcaatt atgaggaagc cagagagatt tttgtggatg aagataaaac gattgcattt 480
tggcaggaat attcagctaa aggaccaacc acaaaatcag atggcaacag agagaaaata 540
gatgttatgg gccttctgac tggattaatt gctgctggag tattttggt tattttggga 600
ttacttggct actatctttg tatcactaag tgtaataggc tacaacatcc atgctcttca 660
gccgtctatg aaagggggag gcacactccc tccatcattt tcagaagacc tgaggaggct 720
gccttgtctc cattgccgcc ttctgtggag gatgcaggat taccttctta tgaacaggca 780
gtggcgctga ccagaaaaca cagtgtttca ccaccaccac catatcctgg cacacaaaa 840
ggatttaggg tatttaaaaa atctatgtct ctcccatctc actgactacc ttgtcatttt 900
ggtataagaa atttgtgtta tttgataggc cgggcatggt ggctcatgcc tgtaatccca 960
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gaggctgaag caggagaatt gctcgaacct gggaggcaga ggttgcagta agctgagatc 1140
acgccactgc attccagcct gggcgacaga gcaagactcc atctcaaaaa taaataaaa 1200
aaagaaagaa agaaagaag aagaaagag aagaaggaga aggagatgaa ggaggaggag 1260
gaggagaagg agaagaagaa gaagaagaag accacaaaag acatgactat ccaactttt 1320
atgacaaact gcaaggaata aaggaagaat aagtccatgt actgtaccac agaagttctg 1380
tctgcatctt ggacctgaac ttgatcatta tcagcttgat aagagacttt ttgactctat 1440
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atctttctta taaagagcat aggtagaatt agtgaactct ttggatcctt tgtacagata 1560
aaggttatag atttcttgtg ttgaatatta aaaagcaag gatgtctaac cattaagatt 1620
atccaaagtc aggctgggcg cagtggctca cgcctgtaat cccagcactt gggagggat 1680
aggtgggcgg atcacctgag gtcaggagtt tgagaccagc ctggccaaca tggcaaaacc 1740
ccgtctctac aaaaatacaa aagaaattag ccagacatga tggcgggtgc ctctaatccc 1800
agctactggg gaggctgagg tgggagaatc gcttgaactc gggaggtgga ggttgtagtg 1860
aggcgagatt gtgccattgc actccaacct gggcgacaga gtgagactcc atctcaaaaa 1920
aaaaaaaaaa aaaagatta tccaaaaaga tattggacct actctttctt aggattttt 1980
tggcgggggg ttagaaatac ttcacagaat ttgacatttc agtataaatc tgtgacctta 2040

195

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atataatcac ttggtttttat atgttaaatt attgcacagc agtcatcata ttttgcagag 2100
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tcttcttcta aaaaatacta tttgctatga agttagttct tcagaagata caagtttgca 2220
atgaaaagga tttgcaaggg ttgttatgct atcaaataaa cagacctaaa atctaggaga 2280
cactagaact taatgaagtt gccctgtta ctgattagta aatactccca tcttcgttgc 2340
aaaattatct ctctgtataa ctacatatga ttattttgaa atttgttaaa cttcataagt 2400
aatagtttga gaatgtggaa aaagtaattt gcttttctgc tcttaaaata atattgatta 2460
atgttaccag aaaaaaaaaa aaaaaaaagg gcggccgc          2498
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<210> 309
<211> 678
<212> DNA
<213> Homo sapiens

<400> 309
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atgtttacgc ttctggttct actcagccaa ctgcccacag ttaccctggg gtttcctcat 60
tgcgcaagag gtccaaaggc ttctaagcat gcgggagaag aagtgtttac atcaaaagaa 120
gaagcaaact ttttcataca tagacgcctt ctgtataata gatttgatct ggagctcttc 180
actcccggca acctagaaag agagtgcaat gaagaacttt gcaattatga ggaagccaga 240
gagatttttg tggatgaaga taaacgatt gcattttggc aggaatattc agctaaagga 300
ccaaccacaa aatcagatgg caacagagag aaaatagatg ttatgggcct tctgactgga 360
ttaattgctg ctggagtatt tttggttatt tttggattac ttggctacta tctttgtatc 420
actaagtgta ataggctaca acatccatgc tcttcagccg tctatgaaag ggggaggcac 480
actccctcca tcattttcag aagacctgag gaggctgcct tgtctccatt gccgccttct 540
gtggaggatg caggattacc ttcttatgaa caggcagtgg cgctgaccag aaaacacagt 600
gtttcaccac caccaccata tcctgggcac acaaaggat ttagggtatt taaaaaatct 660
atgtctctcc catctcac                               678
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<210> 310
<211> 226
<212> PRT
<213> Homo sapiens

<400> 310
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Met Phe Thr Leu Leu Val Leu Leu Ser Gln Leu Pro Thr Val Thr Leu
 1               5                  10                  15

Gly Phe Pro His Cys Ala Arg Gly Pro Lys Ala Ser Lys His Ala Gly
                20                  25                  30

Glu Glu Val Phe Thr Ser Lys Glu Glu Ala Asn Phe Phe Ile His Arg
                35                  40                  45

Arg Leu Leu Tyr Asn Arg Phe Asp Leu Glu Leu Phe Thr Pro Gly Asn
    50                  55                  60
```

196

Leu Glu Arg Glu Cys Asn Glu Glu Leu Cys Asn Tyr Glu Glu Ala Arg
 65   70   75   80

Glu Ile Phe Val Asp Glu Asp Lys Thr Ile Ala Phe Trp Gln Glu Tyr
                85   90   95

Ser Ala Lys Gly Pro Thr Thr Lys Ser Asp Gly Asn Arg Glu Lys Ile
            100   105   110

Asp Val Met Gly Leu Leu Thr Gly Leu Ile Ala Ala Gly Val Phe Leu
            115   120   125

Val Ile Phe Gly Leu Leu Gly Tyr Tyr Leu Cys Ile Thr Lys Cys Asn
    130   135   140

Arg Leu Gln His Pro Cys Ser Ser Ala Val Tyr Glu Arg Gly Arg His
145   150   155   160

Thr Pro Ser Ile Ile Phe Arg Arg Pro Glu Glu Ala Ala Leu Ser Pro
                165   170   175

Leu Pro Pro Ser Val Glu Asp Ala Gly Leu Pro Ser Tyr Glu Gln Ala
            180   185   190

Val Ala Leu Thr Arg Lys His Ser Val Ser Pro Pro Pro Pro Tyr Pro
            195   200   205

Gly His Thr Lys Gly Phe Arg Val Phe Lys Lys Ser Met Ser Leu Pro
    210   215   220

Ser His
225

<210> 311
<211> 17
<212> PRT
<213> Homo sapiens

<400> 311
Met Phe Thr Leu Leu Val Leu Leu Ser Gln Leu Pro Thr Val Thr Leu
 1   5   10   15

Gly

<210> 312

197

<211> 209
<212> PRT
<213> Homo sapiens

<400> 312

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Phe Pro His Cys Ala Arg Gly Pro Lys Ala Ser Lys His Ala Gly Glu
 1               5                  10                  15

Glu Val Phe Thr Ser Lys Glu Glu Ala Asn Phe Phe Ile His Arg Arg
            20                  25                  30

Leu Leu Tyr Asn Arg Phe Asp Leu Glu Leu Phe Thr Pro Gly Asn Leu
            35                  40                  45

Glu Arg Glu Cys Asn Glu Glu Leu Cys Asn Tyr Glu Glu Ala Arg Glu
        50                  55                  60

Ile Phe Val Asp Glu Asp Lys Thr Ile Ala Phe Trp Gln Glu Tyr Ser
    65                  70                  75                  80

Ala Lys Gly Pro Thr Thr Lys Ser Asp Gly Asn Arg Glu Lys Ile Asp
                85                  90                  95

Val Met Gly Leu Leu Thr Gly Leu Ile Ala Ala Gly Val Phe Leu Val
            100                 105                 110

Ile Phe Gly Leu Leu Gly Tyr Tyr Leu Cys Ile Thr Lys Cys Asn Arg
            115                 120                 125

Leu Gln His Pro Cys Ser Ser Ala Val Tyr Glu Arg Gly Arg His Thr
        130                 135                 140

Pro Ser Ile Ile Phe Arg Arg Pro Glu Glu Ala Ala Leu Ser Pro Leu
145                 150                 155                 160

Pro Pro Ser Val Glu Asp Ala Gly Leu Pro Ser Tyr Glu Gln Ala Val
                165                 170                 175

Ala Leu Thr Arg Lys His Ser Val Ser Pro Pro Pro Pro Tyr Pro Gly
            180                 185                 190

His Thr Lys Gly Phe Arg Val Phe Lys Lys Ser Met Ser Leu Pro Ser
            195                 200                 205

His
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198

<210> 313
<211> 96
<212> PRT
<213> Homo sapiens

<400> 313
Phe Pro His Cys Ala Arg Gly Pro Lys Ala Ser Lys His Ala Gly Glu
1   5   10   15

Glu Val Phe Thr Ser Lys Glu Glu Ala Asn Phe Phe Ile His Arg Arg
            20   25   30

Leu Leu Tyr Asn Arg Phe Asp Leu Glu Leu Phe Thr Pro Gly Asn Leu
        35   40   45

Glu Arg Glu Cys Asn Glu Glu Leu Cys Asn Tyr Glu Glu Ala Arg Glu
        50   55   60

Ile Phe Val Asp Glu Asp Lys Thr Ile Ala Phe Trp Gln Glu Tyr Ser
65   .   70   75   80

Ala Lys Gly Pro Thr Thr Lys Ser Asp Gly Asn Arg Glu Lys Ile Asp
                85   90   95

<210> 314
<211> 25
<212> PRT
<213> Homo sapiens

<400> 314
Val Met Gly Leu Leu Thr Gly Leu Ile Ala Ala Gly Val Phe Leu Val
1   5   10   15

Ile Phe Gly Leu Leu Gly Tyr Tyr Leu
                20   25

<210> 315
<211> 88
<212> PRT
<213> Homo sapiens

<400> 315
Cys Ile Thr Lys Cys Asn Arg Leu Gln His Pro Cys Ser Ser Ala Val

199

Tyr Glu Arg Gly Arg His Thr Pro Ser Ile Ile Phe Arg Arg Pro Glu
            20   25   30

Glu Ala Ala Leu Ser Pro Leu Pro Pro Ser Val Glu Asp Ala Gly Leu
        35   40   45

Pro Ser Tyr Glu Gln Ala Val Ala Leu Thr Arg Lys His Ser Val Ser
        50   55   60

Pro Pro Pro Pro Tyr Pro Gly His Thr Lys Gly Phe Arg Val Phe Lys
    65   70   75   80

Lys Ser Met Ser Leu Pro Ser His
                85

<210> 322
<400> 322
000

<210> 323
<400> 323
000

<210> 324
<211> 1432
<212> DNA
<213> Homo sapiens

<400> 324
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tgccgcgccg ggccgcgctg gggctcctgc cgcttctgct gctgctgccg cccgcgccgg 180
aggccgccaa gaagccgacg ccctgccacc ggtgccgggg gctggtggac aagtttaacc 240
aggggatggt ggacaccgca aagaagaact ttggcggcgg gaacacggct gggaggaaa 300
agacgctgtc caagtacgag tccagcgaga ttcgcctgct ggagatcctg gaggggctgt 360
gcgagagcag cgacttcgaa tgcaatcaga tgctagaggc gcaggaggag cacctggagg 420
cctggtggct gcagctgaag agcgaatatc ctgacttatt cgagtggttt tgtgtgaaga 480
cactgaaagt gtgctgctct ccaggaacct acggtcccga ctgtctcgca tgccagggcg 540
gatcccagag gccctgcagc gggaatggcc actgcagcgg agatgggagc agacagggcg 600
acgggtcctg ccggtgccac atggggtacc agggcccgct gtgcactgac tgcatggacg 660
gctacttcag ctcgctccgg aacgagaccc acagcatctg cacagcctgt gacgagtcct 720
gcaagacgtg ctcgggcctg accaacagag actgcggcga gtgtgaagtg ggctgggtgc 780
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gtgtgggctg cacaggggaa ggcccaggaa actgtaaaga gtgtatctct ggctacgcga 960
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gcccgacaca gctgccctcc cgcgaagacc tgtaatgtgc cggacttacc ctttaaatta 1200
ttcagaagga tgtcccgtgg aaaatgtggc cctgaggatg ccgtctcctg cagtggacag 1260
cggcggggag aggctgcctg ctctctaacg gttgattctc atttgtccct taaacagctg 1320
catttcttgg ttgttcttaa acagacttgt atattttgat acagttcttt gtaataaaat 1380
tgaccattgt aggtaatcaa aaaaaaaaaa aaaaaaggg cggccgctag ac   1432

<210> 325
<211> 1059
<212> DNA
<213> Homo sapiens

<400> 325

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gcgccggagg ccgccaagaa gccgacgccc tgccaccggt gccgggggct ggtggacaag 120
tttaaccagg ggatggtgga caccgcaaag aagaactttg cggcgggaa cacggcttgg 180
gaggaaaaga cgctgtccaa gtacgagtcc agcgagattc gcctgctgga gatcctggag 240
gggctgtgcg agagcagcga cttcgaatgc aatcagatgc tagaggcgca ggaggagcac 300
ctggaggcct ggtggctgca gctgaagagc gaatatcctg acttattcga gtggtttgt 360
gtgaagacac tgaaagtgtg ctgctctcca ggaacctacg tcccgactg tctcgcatgc 420
cagggcggat cccagaggcc ctgcagcggg aatggccact gcagcggaga tgggagcaga 480
caggcgacg ggtcctgccg gtgccacatg gggtaccagg cccgctgtg cactgactgc 540
atggacggct acttcagctc gctccggaac gagacccaca gcatctgcac agcctgtgac 600
gagtcctgca agacgtgctc gggcctgacc aacagagact cggcgagtg tgaagtgggc 660
tgggtgctgg acgagggcgc ctgtgtggat gtggacgagt gtgcggccga gccgcctccc 720
tgcagcgctg cgcagttctg taagaacgcc aacggctcct acacgtgcga agagtgtgac 780
tccagctgtg tgggctgcac aggggaaggc ccaggaaact gtaaagagtg tatctctggc 840
tacgcgaggg agcacggaca gtgtgcagat gtggacgagt gctcactagc agaaaaaacc 900
tgtgtgagga aaacgaaaa ctgctacaat actccaggga gctacgtctg tgtgtgtcct 960
gacggcttcg aagaaacgga agatgcctgt gtgccgccgg cagaggctga agccacagaa 1020
ggagaaagcc cgacacagct gccctcccgc gaagacctg         1059
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<210> 326
<211> 353
<212> PRT
<213> Homo sapiens

<400> 326
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Met Arg Leu Pro Arg Arg Ala Ala Leu Gly Leu Leu Pro Leu Leu Leu
1               5                   10                  15

Leu Leu Pro Pro Ala Pro Glu Ala Ala Lys Lys Pro Thr Pro Cys His
            20                  25                  30

Arg Cys Arg Gly Leu Val Asp Lys Phe Asn Gln Gly Met Val Asp Thr
        35                  40                  45

Ala Lys Lys Asn Phe Gly Gly Gly Asn Thr Ala Trp Glu Glu Lys Thr
    50                  55                  60

Leu Ser Lys Tyr Glu Ser Ser Glu Ile Arg Leu Leu Glu Ile Leu Glu
65                  70                  75                  80

Gly Leu Cys Glu Ser Ser Asp Phe Glu Cys Asn Gln Met Leu Glu Ala
                85                  90                  95

Gln Glu Glu His Leu Glu Ala Trp Trp Leu Gln Leu Lys Ser Glu Tyr
            100                 105                 110

Pro Asp Leu Phe Glu Trp Phe Cys Val Lys Thr Leu Lys Val Cys Cys
```

202

Ser Pro Gly Thr Tyr Gly Pro Asp Cys Leu Ala Cys Gln Gly Gly Ser
    130   135   140

Gln Arg Pro Cys Ser Gly Asn Gly His Cys Ser Gly Asp Gly Ser Arg
145   150   155   160

Gln Gly Asp Gly Ser Cys Arg Cys His Met Gly Tyr Gln Gly Pro Leu
                165   170   175

Cys Thr Asp Cys Met Asp Gly Tyr Phe Ser Ser Leu Arg Asn Glu Thr
            180   185   190

His Ser Ile Cys Thr Ala Cys Asp Glu Ser Cys Lys Thr Cys Ser Gly
        195   200   205

Leu Thr Asn Arg Asp Cys Gly Glu Cys Glu Val Gly Trp Val Leu Asp
    210   215   220

Glu Gly Ala Cys Val Asp Val Asp Glu Cys Ala Ala Glu Pro Pro Pro
225   230   235   240

Cys Ser Ala Ala Gln Phe Cys Lys Asn Ala Asn Gly Ser Tyr Thr Cys
                245   250   255

Glu Glu Cys Asp Ser Ser Cys Val Gly Cys Thr Gly Glu Gly Pro Gly
            260   265   270

Asn Cys Lys Glu Cys Ile Ser Gly Tyr Ala Arg Glu His Gly Gln Cys
        275   280   285

Ala Asp Val Asp Glu Cys Ser Leu Ala Glu Lys Thr Cys Val Arg Lys
    290   295   300

Asn Glu Asn Cys Tyr Asn Thr Pro Gly Ser Tyr Val Cys Val Cys Pro
305   310   315   320

Asp Gly Phe Glu Glu Thr Glu Asp Ala Cys Val Pro Pro Ala Glu Ala
            325   330   335

Glu Ala Thr Glu Gly Glu Ser Pro Thr Gln Leu Pro Ser Arg Glu Asp
        340   345   350

Leu

<210> 327
<211> 24
<212> PRT
<213> Homo sapiens

<400> 327
Met Arg Leu Pro Arg Arg Ala Ala Leu Gly Leu Leu Pro Leu Leu Leu
1   5   10   15

Leu Leu Pro Pro Ala Pro Glu Ala
            20

<210> 328
<211> 329
<212> PRT
<213> Homo sapiens

<400> 328
Ala Lys Lys Pro Thr Pro Cys His Arg Cys Arg Gly Leu Val Asp Lys
1   5   10   15

Phe Asn Gln Gly Met Val Asp Thr Ala Lys Lys Asn Phe Gly Gly Gly
            20   25   30

Asn Thr Ala Trp Glu Glu Lys Thr Leu Ser Lys Tyr Glu Ser Ser Glu
        35   40   45

Ile Arg Leu Leu Glu Ile Leu Glu Gly Leu Cys Glu Ser Ser Asp Phe
    50   55   60

Glu Cys Asn Gln Met Leu Glu Ala Gln Glu Glu His Leu Glu Ala Trp
65   70   75   80

Trp Leu Gln Leu Lys Ser Glu Tyr Pro Asp Leu Phe Glu Trp Phe Cys
                85   90   95

Val Lys Thr Leu Lys Val Cys Cys Ser Pro Gly Thr Tyr Gly Pro Asp
            100   105   110

Cys Leu Ala Cys Gln Gly Gly Ser Gln Arg Pro Cys Ser Gly Asn Gly
        115   120   125

His Cys Ser Gly Asp Gly Ser Arg Gln Gly Asp Gly Ser Cys Arg Cys
    130   135   140

His Met Gly Tyr Gln Gly Pro Leu Cys Thr Asp Cys Met Asp Gly Tyr
145   150   155   160

204

```
Phe Ser Ser Leu Arg Asn Glu Thr His Ser Ile Cys Thr Ala Cys Asp
                165                 170                 175

Glu Ser Cys Lys Thr Cys Ser Gly Leu Thr Asn Arg Asp Cys Gly Glu
            180                 185                 190

Cys Glu Val Gly Trp Val Leu Asp Glu Gly Ala Cys Val Asp Val Asp
            195                 200                 205

Glu Cys Ala Ala Glu Pro Pro Pro Cys Ser Ala Ala Gln Phe Cys Lys
        210                 215                 220

Asn Ala Asn Gly Ser Tyr Thr Cys Glu Glu Cys Asp Ser Ser Cys Val
225                 230                 235                 240

Gly Cys Thr Gly Glu Gly Pro Gly Asn Cys Lys Glu Cys Ile Ser Gly
            245                 250                 255

Tyr Ala Arg Glu His Gly Gln Cys Ala Asp Val Asp Glu Cys Ser Leu
            260                 265                 270

Ala Glu Lys Thr Cys Val Arg Lys Asn Glu Asn Cys Tyr Asn Thr Pro
            275                 280                 285

Gly Ser Tyr Val Cys Val Cys Pro Asp Gly Phe Glu Glu Thr Glu Asp
        290                 295                 300

Ala Cys Val Pro Pro Ala Glu Ala Glu Ala Thr Glu Gly Glu Ser Pro
305                 310                 315                 320

Thr Gln Leu Pro Ser Arg Glu Asp Leu
                325


<210> 329
<211> 2730
<212> DNA
<213> Homo sapiens

<400> 329
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gcagtctcag ctgcagctgc aggactgagc cgtgcacccg gaggagaccc ccggaggagg 120
cgacaaactt cgcagtgccg cgacccaacc ccagccctgg gtagcctgca gcatggccca 180
gctgttcctg cccctgctgg cagccctggt cctggcccag gctcctgcag ctttagcaga 240
tgttctggaa ggagacagct cagaggaccg cgcttttcgc gtgcgcatcg cgggcgacgc 300
gccactgcag ggcgtgctcg gcggcgccct caccatccct tgccacgtcc actacctgcg 360
gccaccgccg agccgccggg ctgtgctggg ctctccgcgg gtcaagtgga ctttcctgtc 420
```

205

```
ccggggccgg gaggcagagg tgctggtggc gcggggagtg cgcgtcaagg tgaacgaggc 480
ctaccggttc cgcgtggcac tgcctgcgta cccagcgtcg ctcaccgacg tctccctggc 540
gctgagcgag ctgcgcccca acgactcagg tatctatcgc tgtgaggtcc agcacggcat 600
cgatgacagc agcgacgctg tggaggtcaa ggtcaaaggg gtcgtctttc tctaccgaga 660
gggctctgcc cgctatgctt tctccttttc tggggcccag gaggcctgtg cccgcattgg 720
agcccacatc gccaccccgg agcagctcta tgccgcctac cttggggggct atgagcaatg 780
tgatgctggc tggctgtcgg atcagaccgt gaggtatccc atccagaccc cacgagaggc 840
ctgttacgga gacatggatg gcttccccgg ggtccggaac tatggtgtgg tggacccgga 900
tgacctctat gatgtgtact gttatgctga agacctaaat ggagaactgt tcctgggtga 960
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gattgccacc acgggccaac tgtatgcagc ctgggatggt ggcctggacc actgcagccc 1080
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tgaggcctcc aacccagcct ccaacccagc ctctgatgga ctagaggcta tcgtcacagt 1320
gacagagacc ctggaggaac tgcagctgcc tcaggaagcc acagagagtg aatcccgtgg 1380
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cccagcagag gcccctagga cgctcctaga atttgaaaca caatccatgg taccgcccac 1500
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agagaaagag gaggaagaag aagaggagga ggtggaggat gaggctctgt gggcatggcc 1620
cagcgagctc agcagcccgg gccctgaggc ctctctcccc actgagccag cagcccagga 1680
gaagtcactc tcccaggcgc cagcaagggc agtcctgcag cctggtgcat caccacttcc 1740
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gcccactccc agggagagga acctagcatc cccatcacct tccactctgg ttgaggcaag 1860
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ggagacagga agctccgagg gtgcccttc cctgcttcca gccacacggg cccctgaggg 1980
taccagggag ctggagcccc cctctgaaga taattctgga agaactgccc cagcagggac 2040
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ggtccccgca tcaggtaatt ctgcccaagg ctcaactgcc ctctctatcc tactccttttt 2160
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gagaacccgt accccacag agccttaagc aactacttct gtgaagtatt ttttgactgt 2640
ttcatggaaa acaagccttg gaaataaatc tctattaaac cgctttgtaa ccaaaaaaaa 2700
aaaaaaaaaa aaaaaaaaaa gggcggccgc                                   2730
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<210> 330
<211> 2013
<212> DNA
<213> Homo sapiens

<400> 330
atggcccagc tgttcctgcc cctgctggca gccctggtcc tggcccaggc tcctgcagct 60

206

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ttagcagatg ttctggaagg agacagctca gaggaccgcg cttttcgcgt gcgcatcgcg 120
ggcgacgcgc cactgcaggg cgtgctcggc ggcgccctca ccatcccttg ccacgtccac 180
tacctgcggc caccgccgag ccgccgggct gtgctgggct ctccgcgggt caagtggact 240
ttcctgtccc ggggccggga ggcagaggtg ctggtggcgc ggggagtgcg cgtcaaggtg 300
aacgaggcct accggttccg cgtggcactg cctgcgtacc cagcgtcgct caccgacgtc 360
tccctggcgc tgagcgagct cgcccccaac gactcaggta tctatcgctg tgaggtccag 420
cacggcatcg atgacagcag cgacgctgtg gaggtcaagg tcaaaggggt cgtctttctc 480
taccgagagg gctctgcccg ctatgctttc tccttttctg gggcccagga ggcctgtgcc 540
cgcattggag cccacatcgc cacccccgag cagctctatg ccgcctacct ggggggctat 600
gagcaatgtg atgctggctg ctgtcggat cagaccgtga ggtatcccat ccagaccccca 660
cgagaggcct gttacggaga catggatggc ttccccgggg tccggaacta tggtgtggtg 720
gacccggatg acctctatga tgtgtactgt tatgctgaag acctaaatgg agaactgttc 780
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tgcagcccag ggtggctagc tgatggcagt gtgcgctacc ccatcgtcac acccagccag 960
cgctgtggtg ggggcttgcc tggtgtcaag actctcttcc tcttccccaa ccagactggc 1020
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gtcacagtga cagagaccct ggaggaactg cagctgcctc aggaagccac agagagtgaa 1200
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ccgcccacgg ggttctcaga agaggaaggt aaggcattgg aggaagaaga gaaatatgaa 1380
gatgaagaag agaaagagga ggaagaagaa gaggaggagg tggaggatga ggctctgtgg 1440
gcatggccca gcgagctcag cagcccgggc cctgaggcct ctctccccac tgagccagca 1500
gcccaggaga agtcactctc ccaggcgcca gcaagggcag tcctgcagcc tggtgcatca 1560
ccacttcctg atggagagtc agaagcttcc aggcctccaa gggtccatgg accacctact 1620
gagactctgc ccactcccag ggagaggaac ctagcatccc catcaccttc cactctggtt 1680
gaggcaagag aggtggggga ggcaactggt ggtcctgagc tatctggggt ccctcgagga 1740
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cctgagggta ccagggagct ggaggccccc tctgaagata attctggaag aactgccccca 1860
gcagggacct cagtgcaggc ccagccagtg ctgcccactg acagcgccag ccgaggtgga 1920
gtggccgtgg tccccgcatc aggtaattct gcccaaggct caactgccct ctctatccta 1980
ctcctttct tcccctgca gctctgggtc acc                              2013
```

```
Met Ala Gln Leu Phe Leu Pro Leu Leu Ala Ala Leu Val Leu Ala Gln
  1               5                  10                  15

Ala Pro Ala Ala Leu Ala Asp Val Leu Glu Gly Asp Ser Ser Glu Asp
             20                  25                  30

Arg Ala Phe Arg Val Arg Ile Ala Gly Asp Ala Pro Leu Gln Gly Val
```

Leu Gly Gly Ala Leu Thr Ile Pro Cys His Val His Tyr Leu Arg Pro
    50   55   60

Pro Pro Ser Arg Arg Ala Val Leu Gly Ser Pro Arg Val Lys Trp Thr
65   70   75   80

Phe Leu Ser Arg Gly Arg Glu Ala Glu Val Leu Val Ala Arg Gly Val
                85   90   95

Arg Val Lys Val Asn Glu Ala Tyr Arg Phe Arg Val Ala Leu Pro Ala
                100   105   110

Tyr Pro Ala Ser Leu Thr Asp Val Ser Leu Ala Leu Ser Glu Leu Arg
                115   120   125

Pro Asn Asp Ser Gly Ile Tyr Arg Cys Glu Val Gln His Gly Ile Asp
    130   135   140

Asp Ser Ser Asp Ala Val Glu Val Lys Val Lys Gly Val Val Phe Leu
145   150   155   160

Tyr Arg Glu Gly Ser Ala Arg Tyr Ala Phe Ser Phe Ser Gly Ala Gln
                165   170   175

Glu Ala Cys Ala Arg Ile Gly Ala His Ile Ala Thr Pro Glu Gln Leu
                180   185   190

Tyr Ala Ala Tyr Leu Gly Gly Tyr Glu Gln Cys Asp Ala Gly Trp Leu
                195   200   205

Ser Asp Gln Thr Val Arg Tyr Pro Ile Gln Thr Pro Arg Glu Ala Cys
    210   215   220

Tyr Gly Asp Met Asp Gly Phe Pro Gly Val Arg Asn Tyr Gly Val Val
225   230   235   240

Asp Pro Asp Asp Leu Tyr Asp Val Tyr Cys Tyr Ala Glu Asp Leu Asn
                245   250   255

Gly Glu Leu Phe Leu Gly Asp Pro Pro Glu Lys Leu Thr Leu Glu Glu
                260   265   270

Ala Arg Ala Tyr Cys Gln Glu Arg Gly Ala Glu Ile Ala Thr Thr Gly
    275   280   285

Gln Leu Tyr Ala Ala Trp Asp Gly Gly Leu Asp His Cys Ser Pro Gly

```
        290                 295                 300

Trp Leu Ala Asp Gly Ser Val Arg Tyr Pro Ile Val Thr Pro Ser Gln
305                 310                 315                 320

Arg Cys Gly Gly Gly Leu Pro Gly Val Lys Thr Leu Phe Leu Phe Pro
                325                 330                 335

Asn Gln Thr Gly Phe Pro Asn Lys His Ser Arg Phe Asn Val Tyr Cys
                340                 345                 350

Phe Arg Asp Ser Ala Gln Pro Ser Ala Ile Pro Glu Ala Ser Asn Pro
                355                 360                 365

Ala Ser Asn Pro Ala Ser Asp Gly Leu Glu Ala Ile Val Thr Val Thr
                370                 375                 380

Glu Thr Leu Glu Glu Leu Gln Leu Pro Gln Glu Ala Thr Glu Ser Glu
385                 390                 395                 400

Ser Arg Gly Ala Ile Tyr Ser Ile Pro Ile Met Glu Asp Gly Gly Gly
                405                 410                 415

Gly Ser Ser Thr Pro Glu Asp Pro Ala Glu Ala Pro Arg Thr Leu Leu
                420                 425                 430

Glu Phe Glu Thr Gln Ser Met Val Pro Pro Thr Gly Phe Ser Glu Glu
                435                 440                 445

Glu Gly Lys Ala Leu Glu Glu Glu Glu Lys Tyr Glu Asp Glu Glu Glu
                450                 455                 460

Lys Glu Glu Glu Glu Glu Glu Glu Glu Val Glu Asp Glu Ala Leu Trp
465                 470                 475                 480

Ala Trp Pro Ser Glu Leu Ser Ser Pro Gly Pro Glu Ala Ser Leu Pro
                485                 490                 495

Thr Glu Pro Ala Ala Gln Glu Lys Ser Leu Ser Gln Ala Pro Ala Arg
                500                 505                 510

Ala Val Leu Gln Pro Gly Ala Ser Pro Leu Pro Asp Gly Glu Ser Glu
                515                 520                 525

Ala Ser Arg Pro Pro Arg Val His Gly Pro Pro Thr Glu Thr Leu Pro
                530                 535                 540

Thr Pro Arg Glu Arg Asn Leu Ala Ser Pro Ser Pro Ser Thr Leu Val
```

209

Glu Ala Arg Glu Val Gly Glu Ala Thr Gly Gly Pro Glu Leu Ser Gly
              565   570   575

Val Pro Arg Gly Glu Ser Glu Glu Thr Gly Ser Ser Glu Gly Ala Pro
              580   585   590

Ser Leu Leu Pro Ala Thr Arg Ala Pro Glu Gly Thr Arg Glu Leu Glu
              595   600   605

Ala Pro Ser Glu Asp Asn Ser Gly Arg Thr Ala Pro Ala Gly Thr Ser
              610   615   620

Val Gln Ala Gln Pro Val Leu Pro Thr Asp Ser Ala Ser Arg Gly Gly
625   630   635   640

Val Ala Val Val Pro Ala Ser Gly Asn Ser Ala Gln Gly Ser Thr Ala
              645   650   655

Leu Ser Ile Leu Leu Leu Phe Phe Pro Leu Gln Leu Trp Val Thr
              660   665   670

<210> 332
<211> 22
<212> PRT
<213> Homo sapiens

<400> 332
Met Ala Gln Leu Phe Leu Pro Leu Leu Ala Ala Leu Val Leu Ala Gln
 1   5   10   15

Ala Pro Ala Ala Leu Ala
              20

<210> 333
<211> 649
<212> PRT
<213> Homo sapiens

<400> 333
Asp Val Leu Glu Gly Asp Ser Ser Glu Asp Arg Ala Phe Arg Val Arg
 1   5   10   15

Ile Ala Gly Asp Ala Pro Leu Gln Gly Val Leu Gly Gly Ala Leu Thr
              20   25   30

```
Ile Pro Cys His Val His Tyr Leu Arg Pro Pro Pro Ser Arg Arg Ala
        35                  40                  45

Val Leu Gly Ser Pro Arg Val Lys Trp Thr Phe Leu Ser Arg Gly Arg
        50                  55                  60

Glu Ala Glu Val Leu Val Ala Arg Gly Val Arg Val Lys Val Asn Glu
65                  70                  75                  80

Ala Tyr Arg Phe Arg Val Ala Leu Pro Ala Tyr Pro Ala Ser Leu Thr
                85                  90                  95

Asp Val Ser Leu Ala Leu Ser Glu Leu Arg Pro Asn Asp Ser Gly Ile
            100                 105                 110

Tyr Arg Cys Glu Val Gln His Gly Ile Asp Asp Ser Ser Asp Ala Val
            115                 120                 125

Glu Val Lys Val Lys Gly Val Val Phe Leu Tyr Arg Glu Gly Ser Ala
        130                 135                 140

Arg Tyr Ala Phe Ser Phe Ser Gly Ala Gln Glu Ala Cys Ala Arg Ile
145                 150                 155                 160

Gly Ala His Ile Ala Thr Pro Glu Gln Leu Tyr Ala Ala Tyr Leu Gly
                165                 170                 175

Gly Tyr Glu Gln Cys Asp Ala Gly Trp Leu Ser Asp Gln Thr Val Arg
            180                 185                 190

Tyr Pro Ile Gln Thr Pro Arg Glu Ala Cys Tyr Gly Asp Met Asp Gly
        195                 200                 205

Phe Pro Gly Val Arg Asn Tyr Gly Val Val Asp Pro Asp Asp Leu Tyr
        210                 215                 220

Asp Val Tyr Cys Tyr Ala Glu Asp Leu Asn Gly Glu Leu Phe Leu Gly
225                 230                 235                 240

Asp Pro Pro Glu Lys Leu Thr Leu Glu Glu Ala Arg Ala Tyr Cys Gln
            245                 250                 255

Glu Arg Gly Ala Glu Ile Ala Thr Thr Gly Gln Leu Tyr Ala Ala Trp
        260                 265                 270

Asp Gly Gly Leu Asp His Cys Ser Pro Gly Trp Leu Ala Asp Gly Ser
        275                 280                 285
```

211

```
Val Arg Tyr Pro Ile Val Thr Pro Ser Gln Arg Cys Gly Gly Gly Leu
    290                 295                 300

Pro Gly Val Lys Thr Leu Phe Leu Phe Pro Asn Gln Thr Gly Phe Pro
305                 310                 315                 320

Asn Lys His Ser Arg Phe Asn Val Tyr Cys Phe Arg Asp Ser Ala Gln
                325                 330                 335

Pro Ser Ala Ile Pro Glu Ala Ser Asn Pro Ala Ser Asn Pro Ala Ser
                340                 345                 350

Asp Gly Leu Glu Ala Ile Val Thr Val Thr Glu Thr Leu Glu Glu Leu
            355                 360                 365

Gln Leu Pro Gln Glu Ala Thr Glu Ser Glu Ser Arg Gly Ala Ile Tyr
    370                 375                 380

Ser Ile Pro Ile Met Glu Asp Gly Gly Gly Ser Ser Thr Pro Glu
385                 390                 395                 400

Asp Pro Ala Glu Ala Pro Arg Thr Leu Leu Glu Phe Glu Thr Gln Ser
                405                 410                 415

Met Val Pro Pro Thr Gly Phe Ser Glu Glu Glu Gly Lys Ala Leu Glu
                420                 425                 430

Glu Glu Glu Lys Tyr Glu Asp Glu Glu Glu Lys Glu Glu Glu Glu Glu
    435                 440                 445

Glu Glu Glu Val Glu Asp Glu Ala Leu Trp Ala Trp Pro Ser Glu Leu
    450                 455                 460

Ser Ser Pro Gly Pro Glu Ala Ser Leu Pro Thr Glu Pro Ala Ala Gln
465                 470                 475                 480

Glu Lys Ser Leu Ser Gln Ala Pro Ala Arg Ala Val Leu Gln Pro Gly
                485                 490                 495

Ala Ser Pro Leu Pro Asp Gly Glu Ser Glu Ala Ser Arg Pro Pro Arg
                500                 505                 510

Val His Gly Pro Pro Thr Glu Thr Leu Pro Thr Pro Arg Glu Arg Asn
            515                 520                 525

Leu Ala Ser Pro Ser Pro Ser Thr Leu Val Glu Ala Arg Glu Val Gly
    530                 535                 540
```

212

Glu Ala Thr Gly Gly Pro Glu Leu Ser Gly Val Pro Arg Gly Glu Ser
545   550   555   560

Glu Glu Thr Gly Ser Ser Glu Gly Ala Pro Ser Leu Leu Pro Ala Thr
                565   570   575

Arg Ala Pro Glu Gly Thr Arg Glu Leu Glu Ala Pro Ser Glu Asp Asn
                580   585   590

Ser Gly Arg Thr Ala Pro Ala Gly Thr Ser Val Gln Ala Gln Pro Val
                595   600   605

Leu Pro Thr Asp Ser Ala Ser Arg Gly Gly Val Ala Val Val Pro Ala
        610   615   620

Ser Gly Asn Ser Ala Gln Gly Ser Thr Ala Leu Ser Ile Leu Leu Leu
625   630   635   640

Phe Phe Pro Leu Gln Leu Trp Val Thr
                645

<210> 334
<211> 456
<212> PRT
<213> Pigeon pea witches'-broom phytoplasma

<400> 334
Met Asn Leu Asp Ile His Cys Glu Gln Leu Ser Asp Ala Arg Trp Thr
 1   5   10   15

Glu Leu Leu Pro Leu Leu Gln Gln Tyr Glu Val Val Arg Leu Asp Asp
                20   25   30

Cys Gly Leu Thr Glu Glu His Cys Lys Asp Ile Gly Ser Ala Leu Arg
        35   40   45

Ala Asn Pro Ser Leu Thr Glu Leu Cys Leu Arg Thr Asn Glu Leu Gly
    50   55   60

Asp Ala Gly Val His Leu Val Leu Gln Gly Leu Gln Ser Pro Thr Cys
65   70   75   80

Lys Ile Gln Lys Leu Ser Leu Gln Asn Cys Ser Leu Thr Glu Ala Gly
                85   90   95

Cys Gly Val Leu Pro Ser Thr Leu Arg Ser Leu Pro Thr Leu Arg Glu

213

Leu His Leu Ser Asp Asn Pro Leu Gly Asp Ala Gly Leu Arg Leu Leu
115 120 125

Cys Glu Gly Leu Leu Asp Pro Gln Cys His Leu Glu Lys Leu Gln Leu
130 135 140

Glu Tyr Cys Arg Leu Thr Ala Ala Ser Cys Glu Pro Leu Ala Ser Val
145 150 155 160

Leu Arg Ala Thr Arg Ala Leu Lys Glu Leu Thr Val Ser Asn Asn Asp
165 170 175

Ile Gly Glu Ala Gly Ala Arg Val Leu Gly Gln Gly Leu Ala Asp Ser
180 185 190

Ala Cys Gln Leu Glu Thr Leu Arg Leu Glu Asn Cys Gly Leu Thr Pro
195 200 205

Ala Asn Cys Lys Asp Leu Cys Gly Ile Val Ala Ser Gln Ala Ser Leu
210 215 220

Arg Glu Leu Asp Leu Gly Ser Asn Gly Leu Gly Asp Ala Gly Ile Ala
225 230 235 240

Glu Leu Cys Pro Gly Leu Leu Ser Pro Ala Ser Arg Leu Lys Thr Leu
245 250 255

Trp Leu Trp Glu Cys Asp Ile Thr Ala Ser Gly Cys Arg Asp Leu Cys
260 265 270

Arg Val Leu Gln Ala Lys Glu Thr Leu Lys Glu Leu Ser Leu Ala Gly
275 280 285

Asn Lys Leu Gly Asp Glu Gly Ala Arg Leu Leu Cys Glu Ser Leu Leu
290 295 300

Gln Pro Gly Cys Gln Leu Glu Ser Leu Trp Val Lys Ser Cys Ser Leu
305 310 315 320

Thr Ala Ala Cys Cys Gln His Val Ser Leu Met Leu Thr Gln Asn Lys
325 330 335

His Leu Leu Glu Leu Gln Leu Ser Ser Asn Lys Leu Gly Asp Ser Gly
340 345 350

Ile Gln Glu Leu Cys Gln Ala Leu Ser Gln Pro Gly Thr Thr Leu Arg

214

Val Leu Cys Leu Gly Asp Cys Glu Val Thr Asn Ser Gly Cys Ser Ser
    370   375   380

Leu Ala Ser Leu Leu Leu Ala Asn Arg Ser Leu Arg Glu Leu Asp Leu
385   390   395   400

Ser Asn Asn Cys Val Gly Asp Pro Gly Val Leu Gln Leu Leu Gly Ser
                405   410   415

Leu Glu Gln Pro Gly Cys Ala Leu Glu Gln Leu Val Leu Tyr Asp Thr
                420   425   430

Tyr Trp Thr Glu Glu Val Glu Asp Arg Leu Gln Ala Leu Glu Gly Ser
                435   440   445

Lys Pro Gly Leu Arg Val Ile Ser
                450   455

<210> 335
<211> 834
<212> PRT
<213> Mus sp.

<400> 335
Met Ala Pro His Trp Ala Val Trp Leu Leu Ala Ala Gly Leu Trp Gly
    1   5   10   15

Leu Gly Ile Gly Ala Glu Met Trp Trp Asn Leu Val Pro Arg Lys Thr
                20   25   30

Val Ser Ser Gly Glu Leu Val Thr Val Val Arg Arg Phe Ser Gln Thr
                35   40   45

Gly Ile Gln Asp Phe Leu Thr Leu Thr Leu Thr Glu His Ser Gly Leu
    50   55   60

Leu Tyr Val Gly Ala Arg Glu Ala Leu Phe Ala Phe Ser Val Glu Ala
65   70   75   80

Leu Glu Leu Gln Gly Ala Ile Ser Trp Glu Ala Pro Ala Glu Lys Lys
                85   90   95

Ile Glu Cys Thr Gln Lys Gly Lys Ser Asn Gln Thr Glu Cys Phe Asn
                100   105   110

```
Phe Ile Arg Phe Leu Gln Pro Tyr Asn Ser Ser His Leu Tyr Val Cys
        115                 120                 125

Gly Thr Tyr Ala Phe Gln Pro Lys Cys Thr Tyr Ile Asn Met Leu Thr
        130                 135                 140

Phe Thr Leu Asp Arg Ala Glu Phe Glu Asp Gly Lys Gly Lys Cys Pro
145                 150                 155                 160

Tyr Asp Pro Ala Lys Gly His Thr Gly Leu Leu Val Asp Gly Glu Leu
                165                 170                 175

Tyr Ser Ala Thr Leu Asn Asn Phe Leu Gly Thr Glu Pro Val Ile Leu
                180                 185                 190

Arg Tyr Met Gly Thr His His Ser Ile Lys Thr Glu Tyr Leu Ala Phe
        195                 200                 205

Trp Leu Asn Glu Pro His Phe Val Gly Ser Ala Phe Val Pro Glu Ser
        210                 215                 220

Val Gly Ser Phe Thr Gly Asp Asp Asp Lys Ile Tyr Phe Phe Phe Ser
225                 230                 235                 240

Glu Arg Ala Val Glu Tyr Asp Cys Tyr Ser Glu Gln Val Val Ala Arg
                245                 250                 255

Val Ala Arg Val Cys Lys Gly Asp Met Gly Gly Ala Arg Thr Leu Gln
                260                 265                 270

Lys Lys Trp Thr Thr Phe Leu Lys Ala Arg Leu Val Cys Ser Ala Pro
        275                 280                 285

Asp Trp Lys Val Tyr Phe Asn Gln Leu Lys Ala Val His Thr Leu Arg
        290                 295                 300

Gly Ala Ser Trp His Asn Thr Thr Phe Phe Gly Val Phe Gln Ala Arg
305                 310                 315                 320

Trp Gly Asp Met Asp Leu Ser Ala Val Cys Glu Tyr Gln Leu Glu Gln
                325                 330                 335

Ile Gln Gln Val Phe Glu Gly Pro Tyr Lys Glu Tyr Ser Glu Gln Ala
                340                 345                 350

Gln Lys Trp Ala Arg Tyr Thr Asp Pro Val Pro Ser Pro Arg Pro Gly
        355                 360                 365
```

216

Ser Cys Ile Asn Asn Trp His Arg Asp Asn Gly Tyr Thr Ser Ser Leu
    370   375   380

Glu Leu Pro Asp Asn Thr Leu Asn Phe Ile Lys Lys His Pro Leu Met
385   390   395   400

Glu Asp Gln Val Lys Pro Arg Leu Gly Arg Pro Leu Leu Val Lys Lys
                405   410   415

Asn Thr Asn Phe Thr His Val Val Ala Asp Arg Val Pro Gly Leu Asp
                420   425   430

Gly Ala Thr Tyr Thr Val Leu Phe Ile Gly Thr Gly Asp Gly Trp Leu
            435   440   445

Leu Lys Ala Val Ser Leu Gly Pro Trp Ile His Met Val Glu Glu Leu
    450   455   460

Gln Val Phe Asp Gln Glu Pro Val Glu Ser Leu Val Leu Ser Gln Ser
465   470   475   480

Lys Lys Val Leu Phe Ala Gly Ser Arg Ser Gln Leu Val Gln Leu Ser
                485   490   495

Leu Ala Asp Cys Thr Lys Tyr Arg Phe Cys Val Asp Cys Val Leu Ala
                500   505   510

Arg Asp Pro Tyr Cys Ala Trp Asn Val Asn Thr Ser Arg Cys Val Ala
            515   520   525

Thr Thr Ser Gly Arg Ser Gly Ser Phe Leu Val Gln His Val Ala Asn
    530   535   540

Leu Asp Thr Ser Lys Met Cys Asn Gln Tyr Gly Ile Lys Lys Val Arg
545   550   555   560

Ser Ile Pro Lys Asn Ile Thr Val Val Ser Gly Thr Asp Leu Val Leu
                565   570   575

Pro Cys His Leu Ser Ser Asn Leu Ala His Ala His Trp Thr Phe Gly
            580   585   590

Ser Gln Asp Leu Pro Ala Glu Gln Pro Gly Ser Phe Leu Tyr Asp Thr
            595   600   605

Gly Leu Gln Ala Leu Val Val Met Ala Ala Gln Ser Arg His Ser Gly
    610   615   620

217

Pro Tyr Arg Cys Tyr Ser Glu Glu Gln Gly Thr Arg Leu Ala Ala Glu
625   630   635   640

Ser Tyr Leu Val Ala Val Val Ala Gly Ser Ser Val Thr Leu Glu Ala
                645   650   655

Arg Ala Pro Leu Glu Asn Leu Gly Leu Val Trp Leu Ala Val Val Ala
            660   665   670

Leu Gly Ala Val Cys Leu Val Leu Leu Leu Val Leu Ser Leu Arg
        675   680   685

Arg Arg Leu Arg Glu Glu Leu Glu Lys Gly Ala Lys Ala Ser Glu Arg
    690   695   700

Thr Leu Val Tyr Pro Leu Glu Leu Pro Lys Glu Pro Ala Ser Pro Pro
705   710   715   720

Phe Arg Pro Gly Pro Glu Thr Asp Glu Lys Leu Trp Asp Pro Val Gly
            725   730   735

Tyr Tyr Tyr Ser Asp Gly Ser Leu Lys Ile Val Pro Gly His Ala Arg
        740   745   750

Cys Gln Pro Gly Gly Gly Pro Pro Ser Pro Pro Pro Gly Ile Pro Gly
        755   760   765

Gln Pro Leu Pro Ser Pro Thr Arg Leu His Leu Gly Gly Gly Arg Asn
    770   775   780

Ser Asn Ala Asn Gly Tyr Val Arg Leu Gln Leu Gly Gly Glu Asp Arg
785   790   795   800

Gly Gly Ser Gly His Pro Leu Pro Glu Leu Ala Asp Glu Leu Arg Arg
            805   810   815

Lys Leu Gln Gln Arg Gln Pro Leu Pro Asp Ser Asn Pro Glu Glu Ser
            820   825   830

Ser Val

<210> 336
<211> 3503
<212> DNA
<213> Mus sp.

218

<400> 336

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accgaatgct tcaacttcat ccgcttcctt cagccataca attcctccca tctgtatgtc 480
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gagccggtta tccttcgata catggggacc caccactcca tcaagacaga gtacctggct 720
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219

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<210> 337
<400> 337
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<210> 338
<400> 338
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<210> 339
<211> 348
<212> PRT
<213> Cricetulus griseus

<400> 339
Met His Leu Pro Pro Ala Ala Ala Val Gly Leu Leu Leu Leu Leu
1   5   10   15

Pro Pro Pro Ala Arg Val Ala Ser Arg Lys Pro Thr Met Cys Gln Arg
            20   25   30

Cys Arg Ala Leu Val Asp Lys Phe Asn Gln Gly Met Ala Asn Thr Ala
        35   40   45

Arg Lys Asn Phe Gly Gly Gly Asn Thr Ala Trp Glu Glu Lys Ser Leu
    50   55   60

Ser Lys Tyr Glu Phe Ser Glu Ile Arg Leu Leu Glu Ile Met Glu Gly
65   70   75   80

Leu Cys Asp Ser Asn Asp Phe Glu Cys Asn Gln Leu Leu Glu Gln His
                85   90   95

220

```
Glu Glu Gln Leu Glu Ala Trp Trp Gln Thr Leu Lys Lys Glu Cys Pro
        100                 105                 110

Asn Leu Phe Glu Trp Phe Cys Val His Thr Leu Lys Ala Cys Cys Leu
        115                 120                 125

Pro Gly Thr Tyr Gly Pro Asp Cys Gln Glu Cys Gln Gly Gly Ser Gln
        130                 135                 140

Arg Pro Cys Ser Gly Asn Gly His Cys Asp Gly Asp Gly Ser Arg Gln
145                 150                 155                 160

Gly Asp Gly Ser Cys Gln Cys His Val Gly Tyr Lys Gly Pro Leu Cys
                165                 170                 175

Ile Asp Cys Met Asp Gly Tyr Phe Ser Leu Leu Arg Asn Glu Thr His
        180                 185                 190

Ser Phe Cys Thr Ala Cys Asp Glu Ser Cys Lys Thr Cys Ser Gly Pro
        195                 200                 205

Thr Asn Lys Gly Cys Val Glu Cys Glu Val Gly Trp Thr Arg Val Glu
        210                 215                 220

Asp Ala Cys Val Asp Val Asp Glu Cys Ala Ala Glu Thr Pro Pro Cys
225                 230                 235                 240

Ser Asn Val Gln Tyr Cys Glu Asn Val Asn Gly Ser Tyr Thr Cys Glu
                245                 250                 255

Glu Cys Asp Ser Thr Cys Val Gly Cys Thr Gly Lys Gly Pro Ala Asn
                260                 265                 270

Cys Lys Glu Cys Ile Ser Gly Tyr Ser Lys Gln Lys Gly Glu Cys Ala
        275                 280                 285

Asp Ile Asp Glu Cys Ser Leu Glu Thr Lys Val Cys Lys Lys Glu Asn
        290                 295                 300

Glu Asn Cys Tyr Asn Thr Pro Gly Ser Phe Val Cys Val Cys Pro Glu
305                 310                 315                 320

Gly Phe Glu Glu Asp Arg Arg Cys Leu Cys Thr Asp Ser Arg Arg Arg
                325                 330                 335

Ser Gly Arg Gly Lys Ser His Thr Ala Thr Leu Pro
        340                 345
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221

<210> 340
<211> 1399
<212> DNA
<213> Cricetulus griseus

<400> 340
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ctgctactgc tgctgctgcc gcctcccgcg cgcgtggcct cccggaagcc gacaatgtgc 180
cagaggtgcc gggcgctggt ggacaagttc aaccagggga tggccaacac ggccaggaag 240
aatttcggcg gcggcaacac ggcgtgggag gagaagagtc tgtccaagta cgaattcagt 300
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caactcttgg aacagcatga ggagcagcta gaggcctggt ggcagacact gaagaaggag 420
tgccctaacc tatttgagtg gttctgtgta cacacactga aagcatgctg tcttccaggc 480
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ttgaaggtca ccaggaaca 1399

<210> 341
<211> 528
<212> PRT
<213> Homo sapiens

<400> 341
Met Ala Gln Leu Phe Leu Pro Leu Leu Ala Ala Leu Val Leu Ala Gln
1   5   10   15

Ala Pro Ala Ala Leu Ala Asp Val Leu Glu Gly Asp Ser Ser Glu Asp
            20   25   30

Arg Ala Phe Arg Val Arg Ile Ala Gly Asp Ala Pro Leu Gln Gly Val
        35   40   45

222

```
Leu Gly Gly Ala Leu Thr Ile Pro Cys His Val His Tyr Leu Arg Pro
    50                      55                  60

Pro Pro Ser Arg Arg Ala Val Leu Gly Ser Pro Arg Val Lys Trp Thr
65                      70                  75                  80

Phe Leu Ser Arg Gly Arg Glu Ala Glu Val Leu Val Ala Arg Gly Val
                    85                  90                  95

Arg Val Lys Val Asn Glu Ala Tyr Arg Phe Arg Val Ala Leu Pro Ala
                100                 105                 110

Tyr Pro Ala Ser Leu Thr Asp Val Ser Leu Ala Leu Ser Glu Leu Arg
        115                 120                 125

Pro Asn Asp Ser Gly Ile Tyr Arg Cys Glu Val Gln His Gly Ile Asp
        130                 135                 140

Asp Ser Ser Asp Ala Val Glu Ser Ser Gln Arg Tyr Pro Ile Gln Thr
145                 150                 155                 160

Pro Arg Glu Ala Cys Tyr Gly Asp Met Asp Gly Phe Pro Gly Val Arg
                165                 170                 175

Asn Tyr Gly Val Val Asp Pro Asp Asp Leu Tyr Asp Val Tyr Cys Tyr
                180                 185                 190

Ala Glu Asp Leu Asn Gly Glu Leu Phe Leu Gly Asp Pro Pro Glu Lys
        195                 200                 205

Leu Thr Leu Glu Glu Ala Arg Ala Tyr Cys Gln Glu Arg Gly Ala Glu
        210                 215                 220

Ile Ala Thr Thr Gly Gln Leu Tyr Ala Ala Trp Asp Gly Gly Leu Asp
225                 230                 235                 240

His Cys Ser Pro Gly Trp Leu Ala Asp Gly Ser Val Arg Tyr Pro Ile
                245                 250                 255

Val Thr Pro Ser Gln Arg Cys Gly Gly Gly Leu Pro Gly Val Lys Thr
                260                 265                 270

Leu Phe Leu Phe Pro Asn Gln Thr Gly Phe Pro Asn Lys His Ser Arg
        275                 280                 285

Phe Asn Val Tyr Cys Phe Arg Asp Ser Ala Gln Leu Leu Pro Ser Leu
        290                 295                 300
```

223

Arg Pro Pro Thr Gln Pro Pro Thr Gln Leu Asp Gly Leu Glu Ala Ile
305   310   315   320

Val Thr Val Thr Glu Thr Leu Glu Glu Leu Gln Leu Pro Gln Glu Ala
                325   330   335

Thr Glu Ser Glu Ser Arg Gly Ala Ile Tyr Ser Ile Pro Ile Met Glu
                340   345   350

Asp Gly Gly Gly Gly Ser Ser Thr Pro Glu Asp Pro Ala Glu Ala Pro
                355   360   365

Arg Thr Leu Leu Glu Phe Glu Thr Gln Ser Met Val Pro Pro Thr Gly
    370   375   380

Phe Ser Glu Glu Glu Gly Lys Ala Leu Glu Glu Glu Glu Lys Tyr Glu
385   390   395   400

Asp Glu Glu Glu Lys Glu Glu Glu Glu Glu Glu Glu Val Glu Asp
                405   410   415

Glu Ala Leu Trp Ala Trp Pro Ser Glu Leu Ser Ser Pro Gly Pro Glu
                420   425   430

Ala Ser Leu Pro Thr Glu Pro Ala Ala Gln Glu Glu Ser Leu Ser Gln
                435   440   445

Ala Pro Ala Arg Ala Val Leu Gln Pro Gly Ala Ser Pro Leu Pro Asp
    450   455   460

Gly Glu Ser Glu Ala Ser Arg Pro Pro Arg Val His Gly Pro Pro Thr
465   470   475   480

Glu Thr Leu Pro Thr Pro Arg Glu Arg Asn Leu Ala Ser Pro Ser Pro
                485   490   495

Ser Thr Leu Val Glu Ala Arg Glu Val Gly Glu Ala Thr Gly Gly Pro
                500   505   510

Glu Leu Ser Gly Val Pro Arg Gly Gly Ala Arg Thr Gln Phe Ala Leu
                515   520   525

<210> 342
<211> 883

224

<212> PRT
<213> Mus sp.

<400> 342
Met Ile Pro Leu Leu Leu Ser Leu Leu Ala Ala Leu Val Leu Thr Gln
 1   5   10   15

Ala Pro Ala Ala Leu Ala Asp Asp Leu Lys Glu Asp Ser Ser Glu Asp
            20   25   30

Arg Ala Phe Arg Val Arg Ile Gly Ala Ala Gln Leu Arg Gly Val Leu
        35   40   45

Gly Gly Ala Leu Ala Ile Pro Cys His Val His His Leu Arg Pro Pro
    50   55   60

Arg Ser Arg Arg Ala Ala Pro Gly Phe Pro Arg Val Lys Trp Thr Phe
65   70   75   80

Leu Ser Gly Asp Arg Glu Val Glu Val Leu Val Ala Arg Gly Leu Arg
                85   90   95

Val Lys Val Asn Glu Ala Tyr Arg Phe Arg Val Ala Leu Pro Ala Tyr
            100   105   110

Pro Ala Ser Leu Thr Asp Val Ser Leu Val Leu Ser Glu Leu Arg Pro
            115   120   125

Asn Asp Ser Gly Val Tyr Arg Cys Glu Val Gln His Gly Ile Asp Asp
    130   135   140

Ser Ser Asp Ala Val Glu Val Lys Val Lys Gly Val Val Phe Leu Tyr
145   150   155   160

Arg Glu Gly Ser Ala Arg Tyr Ala Phe Ser Phe Ala Gly Ala Gln Glu
                165   170   175

Ala Cys Ala Arg Ile Gly Ala Arg Ile Ala Thr Pro Glu Gln Leu Tyr
            180   185   190

Ala Ala Tyr Leu Gly Gly Tyr Glu Gln Cys Asp Ala Gly Trp Leu Ser
            195   200   205

Asp Gln Thr Val Arg Tyr Pro Ile Gln Asn Pro Arg Glu Ala Cys Ser
    210   215   220

Gly Asp Met Asp Gly Tyr Pro Gly Val Arg Asn Tyr Gly Val Val Gly
225   230   235   240

225

Pro Asp Asp Leu Tyr Asp Val Tyr Cys Tyr Ala Glu Asp Leu Asn Gly
          245   250   255

Glu Leu Phe Leu Gly Ala Pro Pro Ser Lys Leu Thr Trp Glu Glu Ala
          260   265   270

Arg Asp Tyr Cys Leu Glu Arg Gly Ala Gln Ile Ala Ser Thr Gly Gln
          275   280   285

Leu Tyr Ala Ala Trp Asn Gly Gly Leu Asp Arg Cys Ser Pro Gly Trp
          290   295   300

Leu Ala Asp Gly Ser Val Arg Tyr Pro Ile Ile Thr Pro Ser Gln Arg
305   310   315   320

Cys Gly Gly Gly Leu Pro Gly Val Lys Thr Leu Phe Leu Phe Pro Asn
          325   330   335

Gln Thr Gly Phe Pro Ser Lys Gln Asn Arg Phe Asn Val Tyr Cys Phe
          340   345   350

Arg Asp Ser Ala His Pro Ser Ala Ser Ser Glu Ala Ser Ser Pro Ala
          355   360   365

Ser Asp Gly Leu Glu Ala Ile Val Thr Val Thr Glu Lys Leu Glu Glu
          370   375   380

Leu Gln Leu Pro Gln Glu Ala Met Glu Ser Glu Ser Arg Gly Ala Ile
385   390   395   400

Tyr Ser Ile Pro Ile Ser Glu Asp Gly Gly Gly Gly Ser Ser Thr Pro
          405   410   415

Glu Asp Pro Ala Glu Ala Pro Arg Thr Pro Leu Glu Ser Glu Thr Gln
          420   425   430

Ser Ile Ala Pro Pro Thr Glu Ser Ser Glu Glu Glu Gly Val Ala Leu
          435   440   445

Glu Glu Glu Glu Arg Phe Lys Asp Leu Glu Ala Leu Glu Glu Glu Lys
          450   455   460

Glu Gln Glu Asp Leu Trp Val Trp Pro Arg Glu Leu Ser Ser Pro Leu
465   470   475   480

Pro Thr Gly Ser Glu Thr Glu His Ser Leu Ser Gln Val Ser Pro Pro
          485   490   495

226

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Ala Gln Ala Val Leu Gln Leu Asp Ala Ser Pro Ser Pro Gly Pro Pro
        500             505             510

Arg Phe Arg Gly Pro Pro Ala Glu Thr Leu Leu Pro Pro Arg Glu Trp
        515             520             525

Ser Ala Thr Ser Thr Pro Gly Gly Ala Arg Glu Val Gly Gly Glu Thr
        530             535             540

Gly Ser Pro Glu Leu Ser Gly Val Pro Arg Glu Ser Glu Glu Ala Gly
545             550             555             560

Ser Ser Ser Leu Glu Asp Gly Pro Ser Leu Leu Pro Ala Thr Trp Ala
                565             570             575

Pro Val Gly Pro Arg Glu Leu Glu Thr Pro Ser Glu Glu Lys Ser Gly
        580             585             590

Arg Thr Val Leu Ala Gly Thr Ser Val Gln Ala Gln Pro Val Leu Pro
        595             600             605

Thr Asp Ser Ala Ser His Gly Gly Val Ala Val Ala Pro Ser Ser Gly
        610             615             620

Asp Cys Ile Pro Ser Pro Cys His Asn Gly Gly Thr Cys Leu Glu Glu
625             630             635             640

Lys Glu Gly Phe Arg Cys Leu Cys Leu Pro Gly Tyr Gly Gly Asp Leu
                645             650             655

Cys Asp Val Gly Leu His Phe Cys Ser Pro Gly Trp Glu Ala Phe Gln
                660             665             670

Gly Ala Cys Tyr Lys His Phe Ser Thr Arg Arg Ser Trp Glu Glu Ala
        675             680             685

Glu Ser Gln Cys Arg Ala Leu Gly Ala His Leu Thr Ser Ile Cys Thr
        690             695             700

Pro Glu Glu Gln Asp Phe Val Asn Asp Arg Tyr Arg Glu Tyr Gln Trp
705             710             715             720

Ile Gly Leu Asn Asp Arg Thr Ile Glu Gly Asp Phe Leu Trp Ser Asp
                725             730             735

Gly Ala Pro Leu Leu Tyr Glu Asn Trp Asn Pro Gly Gln Pro Asp Ser
                740             745             750
```

227

Tyr Phe Leu Ser Gly Glu Asn Cys Val Val Met Val Trp His Asp Gln
        755   760   765

Gly Gln Trp Ser Asp Val Pro Cys Asn Tyr His Leu Ser Tyr Thr Cys
        770   775   780

Lys Met Gly Leu Val Ser Cys Gly Pro Pro Pro Gln Leu Pro Leu Ala
785   790   795   800

Gln Ile Phe Gly Arg Pro Arg Leu Arg Tyr Ala Val Asp Thr Val Leu
                805   810   815

Arg Tyr Arg Cys Arg Asp Gly Leu Ala Gln Arg Asn Leu Pro Leu Ile
            820   825   830

Arg Cys Gln Glu Asn Gly Leu Trp Glu Ala Pro Gln Ile Ser Cys Val
        835   840   845

Pro Arg Arg Pro Gly Arg Ala Leu Arg Ser Met Asp Ala Pro Glu Gly
        850   855   860

Pro Arg Gly Gln Leu Ser Arg His Arg Lys Ala Pro Leu Thr Pro Pro
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Ser Ser Leu

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<211> 3153
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<213> Mus sp.

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<210> 351
<211> 2002
<212> DNA
<213> Gerbil

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aggatttagg gtatttaaaa agtcaatgtc actcccatct cactaagccc accttgccgc 780

230

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<210> 352
<211> 675
<212> DNA
<213> Gerbil

<400> 352
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gcaagcatct ttatgcaccg tcgcctccta tacaatagat ttgatttaga actcttcact 180
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aagtgtaata ggcagccata tcaaggttct tcagctgtct acacaagaag gaccaggcac 480
acaccgtcca tcattttcag aacccatgag gaagctgtct tgtctccatc gtcatcctca 540
gaggacgcgg gactaccttc ctatgaacag gcagtagctc tgaccagaaa acacagtgtc 600
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tcactcccat ctcac                                            675
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<210> 353
<211> 225
<212> PRT
<213> Gerbil

<400> 353

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Met Phe Leu Leu Leu Val Val Leu Ser Gln Leu Pro Arg Leu Thr Leu
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Ala Val Pro His Thr Arg Ser Leu Lys Asn Ser Glu His Ala Pro Glu
            20                  25                  30

Gly Val Phe Ala Ser Lys Lys Ala Ala Ser Ile Phe Met His Arg Arg
            35                  40                  45

Leu Leu Tyr Asn Arg Phe Asp Leu Glu Leu Phe Thr Pro Gly Asn Leu
        50                  55                  60

Glu Arg Glu Cys Tyr Glu Glu Phe Cys Ser Tyr Glu Glu Ala Arg Glu
 65                  70                  75                  80

Ile Leu Gly Asp Asn Glu Glu Met Ile Thr Phe Trp Arg Glu Tyr Ser
                85                  90                  95

Val Lys Gly Pro Thr Thr Arg Ser Asp Val Asn Lys Glu Lys Ile Asp
            100                 105                 110

Val Met Gly Leu Leu Thr Gly Leu Ile Ala Ala Gly Val Phe Leu Val
            115                 120                 125

Val Phe Gly Leu Leu Gly Tyr Tyr Leu Cys Ile Thr Lys Cys Asn Arg
        130                 135                 140

Gln Pro Tyr Gln Gly Ser Ser Ala Val Tyr Thr Arg Arg Thr Arg His
145                 150                 155                 160

Thr Pro Ser Ile Ile Phe Arg Thr His Glu Glu Ala Val Leu Ser Pro
            165                 170                 175

Ser Ser Ser Ser Glu Asp Ala Gly Leu Pro Ser Tyr Glu Gln Ala Val
            180                 185                 190

Ala Leu Thr Arg Lys His Ser Val Ser Pro Pro Pro Tyr Pro Gly
            195                 200                 205

Pro Ala Lys Gly Phe Arg Val Phe Lys Lys Ser Met Ser Leu Pro Ser
            210                 215                 220

His
225
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<210> 354

<211> 17
<212> PRT
<213> Gerbil

<400> 354
Met Phe Leu Leu Leu Val Val Leu Ser Gln Leu Pro Arg Leu Thr Leu
 1   5   10   15

Ala

<210> 355
<211> 208
<212> PRT
<213> Gerbil

<400> 355
Val Pro His Thr Arg Ser Leu Lys Asn Ser Glu His Ala Pro Glu Gly
 1   5   10   15

Val Phe Ala Ser Lys Lys Ala Ala Ser Ile Phe Met His Arg Arg Leu
                20   25   30

Leu Tyr Asn Arg Phe Asp Leu Glu Leu Phe Thr Pro Gly Asn Leu Glu
            35   40   45

Arg Glu Cys Tyr Glu Glu Phe Cys Ser Tyr Glu Glu Ala Arg Glu Ile
        50   55   60

Leu Gly Asp Asn Glu Glu Met Ile Thr Phe Trp Arg Glu Tyr Ser Val
 65   70   75   80

Lys Gly Pro Thr Thr Arg Ser Asp Val Asn Lys Glu Lys Ile Asp Val
                85   90   95

Met Gly Leu Leu Thr Gly Leu Ile Ala Ala Gly Val Phe Leu Val Val
            100   105   110

Phe Gly Leu Leu Gly Tyr Tyr Leu Cys Ile Thr Lys Cys Asn Arg Gln
            115   120   125

Pro Tyr Gln Gly Ser Ser Ala Val Tyr Thr Arg Arg Thr Arg His Thr
        130   135   140

Pro Ser Ile Ile Phe Arg Thr His Glu Glu Ala Val Leu Ser Pro Ser
145   150   155   160

233

Ser Ser Ser Glu Asp Ala Gly Leu Pro Ser Tyr Glu Gln Ala Val Ala
            165   170   175

Leu Thr Arg Lys His Ser Val Ser Pro Pro Pro Pro Tyr Pro Gly Pro
            180   185   190

Ala Lys Gly Phe Arg Val Phe Lys Lys Ser Met Ser Leu Pro Ser His
         195   200   205

<210> 356
<211> 95
<212> PRT
<213> Gerbil

<400> 356
Val Pro His Thr Arg Ser Leu Lys Asn Ser Glu His Ala Pro Glu Gly
 1   5   10   15

Val Phe Ala Ser Lys Lys Ala Ala Ser Ile Phe Met His Arg Arg Leu
            20   25   30

Leu Tyr Asn Arg Phe Asp Leu Glu Leu Phe Thr Pro Gly Asn Leu Glu
            35   40   45

Arg Glu Cys Tyr Glu Glu Phe Cys Ser Tyr Glu Glu Ala Arg Glu Ile
      50   55   60

Leu Gly Asp Asn Glu Glu Met Ile Thr Phe Trp Arg Glu Tyr Ser Val
 65   70   75   80

Lys Gly Pro Thr Thr Arg Ser Asp Val Asn Lys Glu Lys Ile Asp
                  85   90   95

<210> 357
<211> 25
<212> PRT
<213> Gerbil

<400> 357
Val Met Gly Leu Leu Thr Gly Leu Ile Ala Ala Gly Val Phe Leu Val
 1   5   10   15

Val Phe Gly Leu Leu Gly Tyr Tyr Leu

234

<210> 358
<211> 88
<212> PRT
<213> Gerbil

<400> 358
Cys Ile Thr Lys Cys Asn Arg Gln Pro Tyr Gln Gly Ser Ser Ala Val
 1   5   10   15

Tyr Thr Arg Arg Thr Arg His Thr Pro Ser Ile Ile Phe Arg Thr His
                20   25   30

Glu Glu Ala Val Leu Ser Pro Ser Ser Ser Glu Asp Ala Gly Leu
            35   40   45

Pro Ser Tyr Glu Gln Ala Val Ala Leu Thr Arg Lys His Ser Val Ser
        50   55   60

Pro Pro Pro Pro Tyr Pro Gly Pro Ala Lys Gly Phe Arg Val Phe Lys
65   70   75   80

Lys Ser Met Ser Leu Pro Ser His
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<210> 359
<400> 359
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<210> 360
<400> 360
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<210> 361
<400> 361
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<210> 362
<211> 962
<212> DNA
<213> Mus sp.

<400> 362

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<210> 363
<211> 320
<212> PRT
<213> Mus sp.

<400> 363
Pro Phe Leu Phe Asn His Leu His Gly Leu Gly Leu Thr Arg Leu Arg
 1   5   10   15

Thr Leu Asp Leu Ser Ser Asn Trp Leu Lys His Ile Ser Ile Pro Glu
             20   25   30

Leu Ala Ala Leu Pro Thr Tyr Leu Lys Asn Arg Leu Tyr Leu His Asn
         35   40   45

Asn Pro Leu Pro Cys Asp Cys Ser Leu Tyr His Leu Leu Arg Arg Trp
     50   55   60

His Gln Arg Gly Leu Ser Ala Leu His Asp Phe Glu Arg Glu Tyr Thr
 65   70   75   80

Cys Leu Val Phe Lys Val Ser Glu Ser Arg Val Arg Phe Phe Glu His
                 85   90   95

Ser Arg Val Phe Lys Asn Cys Ser Val Ala Ala Ala Pro Gly Leu Glu
                100   105   110

Leu Pro Glu Glu Gln Leu His Ala Gln Val Gly Gln Ser Leu Arg Leu

236

Phe Cys Asn Thr Ser Val Pro Ala Thr Arg Val Ala Trp Val Ser Pro
    130   135   140

Lys Asn Glu Leu Leu Val Ala Pro Ala Ser Gln Asp Gly Ser Ile Ala
145   150   155   160

Val Leu Ala Asp Gly Ser Leu Ala Ile Gly Arg Val Gln Glu Gln His
                    165   170   175

Ala Gly Val Phe Val Cys Leu Ala Ser Gly Pro Arg Leu His His Asn
                    180   185   190

Gln Thr Leu Glu Tyr Asn Val Ser Val Gln Lys Ala Arg Pro Glu Pro
                    195   200   205

Glu Thr Phe Asn Thr Gly Phe Thr Thr Leu Leu Gly Cys Ile Val Gly
    210   215   220

Leu Val Leu Val Leu Leu Tyr Leu Phe Ala Pro Pro Cys Arg Gly Cys
225   230   235   240

Cys His Cys Cys Gln Arg Ala Cys Arg Asn Arg Cys Trp Pro Arg Ala
                    245   250   255

Ser Ser Pro Leu Gln Glu Leu Ser Ala Gln Ser Ser Met Leu Ser Thr
                    260   265   270

Thr Pro Pro Asp Ala Pro Ser Arg Lys Ala Ser Val His Lys His Val
                    275   280   285

Val Phe Leu Glu Pro Gly Lys Lys Gly Leu Asn Gly Arg Val Gln Leu
    290   295   300

Ala Val Pro Pro Asp Ser Asp Leu Cys Asn Pro Met Gly Leu Gln Leu
305   310   315   320

<210> 364
<211> 16
<212> PRT
<213> Mus sp.

<400> 364

237

Pro Phe Leu Phe Asn His Leu His Gly Leu Gly Leu Thr Arg Leu Arg
 1   5   10   15

<210> 365
<211> 304
<212> PRT
<213> Mus sp.

<400> 365
Thr Leu Asp Leu Ser Ser Asn Trp Leu Lys His Ile Ser Ile Pro Glu
 1   5   10   15

Leu Ala Ala Leu Pro Thr Tyr Leu Lys Asn Arg Leu Tyr Leu His Asn
            20   25   30

Asn Pro Leu Pro Cys Asp Cys Ser Leu Tyr His Leu Leu Arg Arg Trp
            35   40   45

His Gln Arg Gly Leu Ser Ala Leu His Asp Phe Glu Arg Glu Tyr Thr
        50   55   60

Cys Leu Val Phe Lys Val Ser Glu Ser Arg Val Arg Phe Phe Glu His
 65   70   75   80

Ser Arg Val Phe Lys Asn Cys Ser Val Ala Ala Ala Pro Gly Leu Glu
                85   90   95

Leu Pro Glu Glu Gln Leu His Ala Gln Val Gly Gln Ser Leu Arg Leu
            100   105   110

Phe Cys Asn Thr Ser Val Pro Ala Thr Arg Val Ala Trp Val Ser Pro
            115   120   125

Lys Asn Glu Leu Leu Val Ala Pro Ala Ser Gln Asp Gly Ser Ile Ala
        130   135   140

Val Leu Ala Asp Gly Ser Leu Ala Ile Gly Arg Val Gln Glu Gln His
145   150   155   160

Ala Gly Val Phe Val Cys Leu Ala Ser Gly Pro Arg Leu His His Asn
                165   170   175

Gln Thr Leu Glu Tyr Asn Val Ser Val Gln Lys Ala Arg Pro Glu Pro
            180   185   190

Glu Thr Phe Asn Thr Gly Phe Thr Thr Leu Leu Gly Cys Ile Val Gly
            195   200   205

238

Leu Val Leu Val Leu Leu Tyr Leu Phe Ala Pro Pro Cys Arg Gly Cys
    210   215   220

Cys His Cys Cys Gln Arg Ala Cys Arg Asn Arg Cys Trp Pro Arg Ala
225   230   235   240

Ser Ser Pro Leu Gln Glu Leu Ser Ala Gln Ser Ser Met Leu Ser Thr
                245   250   255

Thr Pro Pro Asp Ala Pro Ser Arg Lys Ala Ser Val His Lys His Val
            260   265   270

Val Phe Leu Glu Pro Gly Lys Lys Gly Leu Asn Gly Arg Val Gln Leu
        275   280   285

Ala Val Pro Pro Asp Ser Asp Leu Cys Asn Pro Met Gly Leu Gln Leu
    290   295   300

<210> 366
<211> 197
<212> PRT
<213> Mus sp.

<400> 366
Thr Leu Asp Leu Ser Ser Asn Trp Leu Lys His Ile Ser Ile Pro Glu
    1   5   10   15

Leu Ala Ala Leu Pro Thr Tyr Leu Lys Asn Arg Leu Tyr Leu His Asn
            20   25   30

Asn Pro Leu Pro Cys Asp Cys Ser Leu Tyr His Leu Leu Arg Arg Trp
        35   40   45

His Gln Arg Gly Leu Ser Ala Leu His Asp Phe Glu Arg Glu Tyr Thr
    50   55   60

Cys Leu Val Phe Lys Val Ser Glu Ser Arg Val Arg Phe Phe Glu His
65   70   75   80

Ser Arg Val Phe Lys Asn Cys Ser Val Ala Ala Ala Pro Gly Leu Glu
            85   90   95

Leu Pro Glu Glu Gln Leu His Ala Gln Val Gly Gln Ser Leu Arg Leu

```
                    100                 105                 110

Phe Cys Asn Thr Ser Val Pro Ala Thr Arg Val Ala Trp Val Ser Pro
        115                 120                 125

Lys Asn Glu Leu Leu Val Ala Pro Ala Ser Gln Asp Gly Ser Ile Ala
    130                 135                 140

Val Leu Ala Asp Gly Ser Leu Ala Ile Gly Arg Val Gln Glu Gln His
145                 150                 155                 160

Ala Gly Val Phe Val Cys Leu Ala Ser Gly Pro Arg Leu His His Asn
                165                 170                 175

Gln Thr Leu Glu Tyr Asn Val Ser Val Gln Lys Ala Arg Pro Glu Pro
                180                 185                 190

Glu Thr Phe Asn Thr
            195


<210> 367
<211> 20
<212> PRT
<213> Mus sp.

<400> 367
Gly Phe Thr Thr Leu Leu Gly Cys Ile Val Gly Leu Val Leu Val Leu
    1               5                   10                  15

Leu Tyr Leu Phe
            20


<210> 368
<211> 87
<212> PRT
<213> Mus sp.

<400> 368
Ala Pro Pro Cys Arg Gly Cys Cys His Cys Cys Gln Arg Ala Cys Arg
    1               5                   10                  15

Asn Arg Cys Trp Pro Arg Ala Ser Ser Pro Leu Gln Glu Leu Ser Ala
                20                  25                  30

Gln Ser Ser Met Leu Ser Thr Thr Pro Pro Asp Ala Pro Ser Arg Lys
        35                  40                  45
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Ala Ser Val His Lys His Val Val Phe Leu Glu Pro Gly Lys Lys Gly
     50                  55                  60

Leu Asn Gly Arg Val Gln Leu Ala Val Pro Pro Asp Ser Asp Leu Cys
65                  70                  75                  80

Asn Pro Met Gly Leu Gln Leu
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<210> 369
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR Primer

<400> 369
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<210> 370
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR Primer

<400> 370
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<210> 371
<211> 1656
<212> DNA
<213> Homo sapiens

<400> 371
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241

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<211> 1425
<212> DNA
<213> Homo sapiens


<400> 372
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<210> 373
<211> 475
<212> PRT
<213> Homo sapiens

<400> 373

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Thr Leu Ala Ala Arg Pro Ala Pro Ser Pro Gly Leu Gly Pro Gly Pro
            20                  25                  30

Glu Cys Phe Thr Ala Asn Gly Ala Asp Tyr Arg Gly Thr Gln Asn Trp
        35                  40                  45

Thr Ala Leu Gln Gly Gly Lys Pro Cys Leu Phe Trp Asn Glu Thr Phe
    50                  55                  60

Gln His Pro Tyr Asn Thr Leu Lys Tyr Pro Asn Gly Glu Gly Gly Leu
65                  70                  75                  80

Gly Glu His Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Ser Pro Trp
                85                  90                  95

Cys Tyr Val Ala Glu His Glu Asp Gly Val Tyr Trp Lys Tyr Cys Glu
            100                 105                 110

Ile Pro Ala Cys Gln Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His
        115                 120                 125

Gly Asn Pro Pro Pro Leu Thr Gly Thr Ser Lys Thr Ser Asn Lys Leu
    130                 135                 140

Thr Ile Gln Thr Cys Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe
145                 150                 155                 160

Ala Gly Met Glu Ser Gly Tyr Ala Cys Phe Cys Gly Asn Asn Pro Asp
                165                 170                 175

Tyr Trp Lys Tyr Gly Glu Ala Ala Ser Thr Glu Cys Asn Ser Val Cys
            180                 185                 190
```

243

Phe Gly Asp His Thr Gln Pro Cys Gly Gly Asp Gly Arg Ile Ile Leu
        195   200   205

Phe Asp Thr Leu Val Gly Ala Cys Gly Gly Asn Tyr Ser Ala Met Ser
        210   215   220

Ser Val Val Tyr Ser Pro Asp Phe Pro Asp Thr Tyr Ala Thr Gly Arg
225   230   235   240

Val Cys Tyr Trp Thr Ile Arg Val Pro Gly Ala Ser His Ile His Phe
                245   250   255

Ser Phe Pro Leu Phe Asp Ile Arg Asp Ser Ala Asp Met Val Glu Leu
            260   265   270

Leu Asp Gly Tyr Thr His Arg Val Leu Ala Arg Phe His Gly Arg Ser
            275   280   285

Arg Pro Pro Leu Ser Phe Asn Val Ser Leu Asp Phe Val Ile Leu Tyr
        290   295   300

Phe Phe Ser Asp Arg Ile Asn Gln Ala Gln Gly Phe Ala Val Leu Tyr
305   310   315   320

Gln Ala Val Lys Glu Glu Leu Pro Gln Glu Arg Pro Ala Val Asn Gln
                325   330   335

Thr Val Ala Glu Val Ile Thr Glu Gln Ala Asn Leu Ser Val Ser Ala
            340   345   350

Ala Arg Ser Ser Lys Val Leu Tyr Val Ile Thr Thr Ser Pro Ser His
        355   360   365

Pro Pro Gln Thr Val Pro Gly Ser Asn Ser Trp Ala Pro Pro Met Gly
        370   375   380

Ala Gly Ser His Arg Val Glu Gly Trp Thr Val Tyr Gly Leu Ala Thr
385   390   395   400

Leu Leu Ile Leu Thr Val Thr Ala Ile Val Ala Lys Ile Leu Leu His
                405   410   415

Val Thr Phe Lys Ser His Arg Val Pro Ala Ser Gly Asp Leu Arg Asp
            420   425   430

Cys His Gln Pro Gly Thr Ser Gly Glu Ile Trp Ser Ile Phe Tyr Lys
            435   440   445

244

Pro Ser Thr Ser Ile Ser Ile Phe Lys Lys Lys Leu Lys Gly Gln Ser
    450   455   460

Gln Gln Asp Asp Arg Asn Pro Leu Val Ser Asp
465   470   475

<210> 374
<211> 19
<212> PRT
<213> Homo sapiens

<400> 374
Met Ala Pro Pro Ala Ala Arg Leu Ala Leu Leu Ser Ala Ala Ala Leu
    1   5   10   15

Thr Leu Ala

<210> 375
<211> 456
<212> PRT
<213> Homo sapiens

<400> 375
Ala Arg Pro Ala Pro Ser Pro Gly Leu Gly Pro Gly Pro Glu Cys Phe
    1   5   10   15

Thr Ala Asn Gly Ala Asp Tyr Arg Gly Thr Gln Asn Trp Thr Ala Leu
                20   25   30

Gln Gly Gly Lys Pro Cys Leu Phe Trp Asn Glu Thr Phe Gln His Pro
            35   40   45

Tyr Asn Thr Leu Lys Tyr Pro Asn Gly Glu Gly Gly Leu Gly Glu His
        50   55   60

Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Ser Pro Trp Cys Tyr Val
65   70   75   80

Ala Glu His Glu Asp Gly Val Tyr Trp Lys Tyr Cys Glu Ile Pro Ala
                85   90   95

Cys Gln Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His Gly Asn Pro
                100   105   110

245

Pro Pro Leu Thr Gly Thr Ser Lys Thr Ser Asn Lys Leu Thr Ile Gln
    115   120   125

Thr Cys Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe Ala Gly Met
    130   135   140

Glu Ser Gly Tyr Ala Cys Phe Cys Gly Asn Asn Pro Asp Tyr Trp Lys
145   150   155   160

Tyr Gly Glu Ala Ala Ser Thr Glu Cys Asn Ser Val Cys Phe Gly Asp
                165   170   175

His Thr Gln Pro Cys Gly Gly Asp Gly Arg Ile Ile Leu Phe Asp Thr
                180   185   190

Leu Val Gly Ala Cys Gly Gly Asn Tyr Ser Ala Met Ser Ser Val Val
                195   200   205

Tyr Ser Pro Asp Phe Pro Asp Thr Tyr Ala Thr Gly Arg Val Cys Tyr
    210   215   220

Trp Thr Ile Arg Val Pro Gly Ala Ser His Ile His Phe Ser Phe Pro
225   230   235   240

Leu Phe Asp Ile Arg Asp Ser Ala Asp Met Val Glu Leu Leu Asp Gly
                245   250   255

Tyr Thr His Arg Val Leu Ala Arg Phe His Gly Arg Ser Arg Pro Pro
                260   265   270

Leu Ser Phe Asn Val Ser Leu Asp Phe Val Ile Leu Tyr Phe Phe Ser
                275   280   285

Asp Arg Ile Asn Gln Ala Gln Gly Phe Ala Val Leu Tyr Gln Ala Val
    290   295   300

Lys Glu Glu Leu Pro Gln Glu Arg Pro Ala Val Asn Gln Thr Val Ala
305   310   315   320

Glu Val Ile Thr Glu Gln Ala Asn Leu Ser Val Ser Ala Ala Arg Ser
                325   330   335

Ser Lys Val Leu Tyr Val Ile Thr Thr Ser Pro Ser His Pro Pro Gln
                340   345   350

Thr Val Pro Gly Ser Asn Ser Trp Ala Pro Pro Met Gly Ala Gly Ser
                355   360   365

246

```
His Arg Val Glu Gly Trp Thr Val Tyr Gly Leu Ala Thr Leu Leu Ile
    370                 375             380

Leu Thr Val Thr Ala Ile Val Ala Lys Ile Leu Leu His Val Thr Phe
385             390             395                 400

Lys Ser His Arg Val Pro Ala Ser Gly Asp Leu Arg Asp Cys His Gln
            405             410             415

Pro Gly Thr Ser Gly Glu Ile Trp Ser Ile Phe Tyr Lys Pro Ser Thr
            420             425             430

Ser Ile Ser Ile Phe Lys Lys Lys Leu Lys Gly Gln Ser Gln Gln Asp
            435             440             445

Asp Arg Asn Pro Leu Val Ser Asp
    450             455


<210> 376
<211> 373
<212> PRT
<213> Homo sapiens

<400> 376
Ala Arg Pro Ala Pro Ser Pro Gly Leu Gly Pro Gly Pro Glu Cys Phe
  1             5                 10                 15

Thr Ala Asn Gly Ala Asp Tyr Arg Gly Thr Gln Asn Trp Thr Ala Leu
            20                 25                 30

Gln Gly Gly Lys Pro Cys Leu Phe Trp Asn Glu Thr Phe Gln His Pro
            35                 40                 45

Tyr Asn Thr Leu Lys Tyr Pro Asn Gly Glu Gly Gly Leu Gly Glu His
    50                 55                 60

Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Ser Pro Trp Cys Tyr Val
65                 70                 75                 80

Ala Glu His Glu Asp Gly Val Tyr Trp Lys Tyr Cys Glu Ile Pro Ala
                85                 90                 95

Cys Gln Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His Gly Asn Pro
            100                 105                 110

Pro Pro Leu Thr Gly Thr Ser Lys Thr Ser Asn Lys Leu Thr Ile Gln
            115                 120                 125
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247

```
Thr Cys Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe Ala Gly Met
    130                 135                 140

Glu Ser Gly Tyr Ala Cys Phe Cys Gly Asn Asn Pro Asp Tyr Trp Lys
145                 150                 155                 160

Tyr Gly Glu Ala Ala Ser Thr Glu Cys Asn Ser Val Cys Phe Gly Asp
                165                 170                 175

His Thr Gln Pro Cys Gly Gly Asp Gly Arg Ile Ile Leu Phe Asp Thr
            180                 185                 190

Leu Val Gly Ala Cys Gly Gly Asn Tyr Ser Ala Met Ser Ser Val Val
            195                 200                 205

Tyr Ser Pro Asp Phe Pro Asp Thr Tyr Ala Thr Gly Arg Val Cys Tyr
    210                 215                 220

Trp Thr Ile Arg Val Pro Gly Ala Ser His Ile His Phe Ser Phe Pro
225                 230                 235                 240

Leu Phe Asp Ile Arg Asp Ser Ala Asp Met Val Glu Leu Leu Asp Gly
                245                 250                 255

Tyr Thr His Arg Val Leu Ala Arg Phe His Gly Arg Ser Arg Pro Pro
            260                 265                 270

Leu Ser Phe Asn Val Ser Leu Asp Phe Val Ile Leu Tyr Phe Phe Ser
            275                 280                 285

Asp Arg Ile Asn Gln Ala Gln Gly Phe Ala Val Leu Tyr Gln Ala Val
    290                 295                 300

Lys Glu Glu Leu Pro Gln Glu Arg Pro Ala Val Asn Gln Thr Val Ala
305                 310                 315                 320

Glu Val Ile Thr Glu Gln Ala Asn Leu Ser Val Ser Ala Ala Arg Ser
                325                 330                 335

Ser Lys Val Leu Tyr Val Ile Thr Thr Ser Pro Ser His Pro Pro Gln
            340                 345                 350

Thr Val Pro Gly Ser Asn Ser Trp Ala Pro Pro Met Gly Ala Gly Ser
            355                 360                 365

His Arg Val Glu Gly
    370
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<210> 377
<211> 23
<212> PRT
<213> Homo sapiens

<400> 377
Trp Thr Val Tyr Gly Leu Ala Thr Leu Leu Ile Leu Thr Val Thr Ala
1   5   10   15

Ile Val Ala Lys Ile Leu Leu
            20

<210> 378
<211> 60
<212> PRT
<213> Homo sapiens

<400> 378
His Val Thr Phe Lys Ser His Arg Val Pro Ala Ser Gly Asp Leu Arg
1   5   10   15

Asp Cys His Gln Pro Gly Thr Ser Gly Glu Ile Trp Ser Ile Phe Tyr
                20   25   30

Lys Pro Ser Thr Ser Ile Ser Ile Phe Lys Lys Lys Leu Lys Gly Gln
            35   40   45

Ser Gln Gln Asp Asp Arg Asn Pro Leu Val Ser Asp
        50   55   60

<210> 379
<211> 4628
<212> DNA
<213> Homo sapiens

<400> 379
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cttgatgatg tttcctgtta tggaaatgag tcagctctct gggaatgtca caccgggaa 420
tggggaagcc ataactgtta tcatggagaa gatgttggtg tgaactgtta tggtgaagcc 480

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<210> 380
<211> 4359
<212> DNA
<213> Homo sapiens

<400> 380
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251

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                              252

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<210> 381
<211> 1453
<212> PRT
<213> Homo sapiens

<400> 381
Met Met Leu Pro Gln Asn Ser Trp His Ile Asp Phe Gly Arg Cys Cys
1               5                   10                  15

Cys His Gln Asn Leu Phe Ser Ala Val Val Thr Cys Ile Leu Leu Leu
                20                  25                  30

Asn Ser Cys Phe Leu Ile Ser Ser Phe Asn Gly Thr Asp Leu Glu Leu
            35                  40                  45

Arg Leu Val Asn Gly Asp Gly Pro Cys Ser Gly Thr Val Glu Val Lys
        50                  55                  60

Phe Gln Gly Gln Trp Gly Thr Val Cys Asp Asp Gly Trp Asn Thr Thr
65                  70                  75                  80

Ala Ser Thr Val Val Cys Lys Gln Leu Gly Cys Pro Phe Ser Phe Ala
                85                  90                  95

Met Phe Arg Phe Gly Gln Ala Val Thr Arg His Gly Lys Ile Trp Leu
            100                 105                 110

Asp Asp Val Ser Cys Tyr Gly Asn Glu Ser Ala Leu Trp Glu Cys Gln
        115                 120                 125

His Arg Glu Trp Gly Ser His Asn Cys Tyr His Gly Glu Asp Val Gly
    130                 135                 140

Val Asn Cys Tyr Gly Glu Ala Asn Leu Gly Leu Arg Leu Val Asp Gly
145                 150                 155                 160

Asn Asn Ser Cys Ser Gly Arg Val Glu Val Lys Phe Gln Glu Arg Trp
                165                 170                 175


253
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```
Gly Thr Ile Cys Asp Asp Gly Trp Asn Leu Asn Thr Ala Ala Val Val
        180                 185                 190

Cys Arg Gln Leu Gly Cys Pro Ser Ser Phe Ile Ser Ser Gly Val Val
        195                 200                 205

Asn Ser Pro Ala Val Leu Arg Pro Ile Trp Leu Asp Asp Ile Leu Cys
    210                 215                 220

Gln Gly Asn Glu Leu Ala Leu Trp Asn Cys Arg His Arg Gly Trp Gly
225                 230                 235                 240

Asn His Asp Cys Ser His Asn Glu Asp Val Thr Leu Thr Cys Tyr Asp
            245                 250                 255

Ser Ser Asp Leu Glu Leu Arg Leu Val Gly Gly Thr Asn Arg Cys Met
        260                 265                 270

Gly Arg Val Glu Leu Lys Ile Gln Gly Arg Trp Gly Thr Val Cys His
        275                 280                 285

His Lys Trp Asn Asn Ala Ala Ala Asp Val Val Cys Lys Gln Leu Gly
    290                 295                 300

Cys Gly Thr Ala Leu His Phe Ala Gly Leu Pro His Leu Gln Ser Gly
305                 310                 315                 320

Ser Asp Val Val Trp Leu Asp Gly Val Ser Cys Ser Gly Asn Glu Ser
            325                 330                 335

Phe Leu Trp Asp Cys Arg His Ser Gly Thr Val Asn Phe Asp Cys Leu
        340                 345                 350

His Gln Asn Asp Val Ser Val Ile Cys Ser Asp Gly Ala Asp Leu Glu
    355                 360                 365

Leu Arg Leu Ala Asp Gly Ser Asn Asn Cys Ser Gly Arg Val Glu Val
    370                 375                 380

Arg Ile His Glu Gln Trp Trp Thr Ile Cys Asp Gln Asn Trp Lys Asn
385                 390                 395                 400

Glu Gln Ala Leu Val Val Cys Lys Gln Leu Gly Cys Pro Phe Ser Val
            405                 410                 415

Phe Gly Ser Arg Arg Ala Lys Pro Ser Asn Glu Ala Arg Asp Ile Trp
        420                 425                 430
```

254

```
Ile Asn Ser Ile Ser Cys Thr Gly Asn Glu Ser Ala Leu Trp Asp Cys
    435                 440                 445

Thr Tyr Asp Gly Lys Ala Lys Arg Thr Cys Phe Arg Arg Ser Asp Ala
    450                 455                 460

Gly Val Ile Cys Ser Asp Lys Ala Asp Leu Asp Leu Arg Leu Val Gly
465                 470                 475                 480

Ala His Ser Pro Cys Tyr Gly Arg Leu Glu Val Lys Tyr Gln Gly Glu
                485                 490                 495

Trp Gly Thr Val Cys His Asp Arg Trp Ser Thr Arg Asn Ala Ala Val
                500                 505                 510

Val Cys Lys Gln Leu Gly Cys Gly Lys Pro Met His Val Phe Gly Met
    515                 520                 525

Thr Tyr Phe Lys Glu Ala Ser Gly Pro Ile Trp Leu Asp Asp Val Ser
    530                 535                 540

Cys Ile Gly Asn Glu Ser Asn Ile Trp Asp Cys Glu His Ser Gly Trp
545                 550                 555                 560

Gly Lys His Asn Cys Val His Arg Glu Asp Val Ile Val Thr Cys Ser
                565                 570                 575

Gly Asp Ala Thr Trp Gly Leu Arg Leu Val Gly Gly Ser Asn Arg Cys
                580                 585                 590

Ser Gly Arg Leu Glu Val Tyr Phe Gln Gly Arg Trp Gly Thr Val Cys
    595                 600                 605

Asp Asp Gly Trp Asn Ser Lys Ala Ala Ala Val Val Cys Ser Gln Leu
    610                 615                 620

Asp Cys Pro Ser Ser Ile Ile Gly Met Gly Leu Gly Asn Ala Ser Thr
625                 630                 635                 640

Gly Tyr Gly Lys Ile Trp Leu Asp Asp Val Ser Cys Asp Gly Asp Glu
                645                 650                 655

Ser Asp Leu Trp Ser Cys Arg Asn Ser Gly Trp Gly Asn Asn Asp Cys
                660                 665                 670

Ser His Ser Glu Asp Val Gly Val Ile Cys Ser Asp Ala Ser Asp Met
    675                 680                 685
```

255

Glu Leu Arg Leu Val Gly Gly Ser Ser Arg Cys Ala Gly Lys Val Glu
    690   695   700

Val Asn Val Gln Gly Ala Val Gly Ile Leu Cys Ala Asn Gly Trp Gly
705   710   715   720

Met Asn Ile Ala Glu Val Val Cys Arg Gln Leu Glu Cys Gly Ser Ala
                725   730   735

Ile Arg Val Ser Arg Glu Pro His Phe Thr Glu Arg Thr Leu His Ile
                740   745   750

Leu Met Ser Asn Ser Gly Cys Thr Gly Gly Glu Ala Ser Leu Trp Asp
            755   760   765

Cys Ile Arg Trp Glu Trp Lys Gln Thr Ala Cys His Leu Asn Met Glu
    770   775   780

Ala Ser Leu Ile Cys Ser Ala His Arg Gln Pro Arg Leu Val Gly Ala
785   790   795   800

Asp Met Pro Cys Ser Gly Arg Val Glu Val Lys His Ala Asp Thr Trp
                805   810   815

Arg Ser Val Cys Asp Ser Asp Phe Ser Leu His Ala Ala Asn Val Leu
                820   825   830

Cys Arg Glu Leu Asn Cys Gly Asp Ala Ile Ser Leu Ser Val Gly Asp
            835   840   845

His Phe Gly Lys Gly Asn Gly Leu Thr Trp Ala Glu Lys Phe Gln Cys
    850   855   860

Glu Gly Ser Glu Thr His Leu Ala Leu Cys Pro Ile Val Gln His Pro
865   870   875   880

Glu Asp Thr Cys Ile His Ser Arg Glu Val Gly Val Val Cys Ser Arg
                885   890   895

Tyr Thr Asp Val Arg Leu Val Asn Gly Lys Ser Gln Cys Asp Gly Gln
                900   905   910

Val Glu Ile Asn Val Leu Gly His Trp Gly Ser Leu Cys Asp Thr His
    915   920   925

Trp Asp Pro Glu Asp Ala Arg Val Leu Cys Arg Gln Leu Ser Cys Gly
    930   935   940

256

Thr Ala Leu Ser Thr Thr Gly Gly Lys Tyr Ile Gly Glu Arg Ser Val
945   950   955   960

Arg Val Trp Gly His Arg Phe His Cys Leu Gly Asn Glu Ser Leu Leu
            965   970   975

Asp Asn Cys Gln Met Thr Val Leu Gly Ala Pro Pro Cys Ile His Gly
        980   985   990

Asn Thr Val Ser Val Ile Cys Thr Gly Ser Leu Thr Gln Pro Leu Phe
        995   1000   1005

Pro Cys Leu Ala Asn Val Ser Asp Pro Tyr Leu Ser Ala Val Pro Glu
    1010   1015   1020

Gly Ser Ala Leu Ile Cys Leu Glu Asp Lys Arg Leu Arg Leu Val Asp
1025   1030   1035   1040

Gly Asp Ser Arg Cys Ala Gly Arg Val Glu Ile Tyr His Asp Gly Phe
            1045   1050   1055

Trp Gly Thr Ile Cys Asp Asp Gly Trp Asp Leu Ser Asp Ala His Val
        1060   1065   1070

Val Cys Gln Lys Leu Gly Cys Gly Val Ala Phe Asn Ala Thr Val Ser
        1075   1080   1085

Ala His Phe Gly Glu Gly Ser Gly Pro Ile Trp Leu Asp Asp Leu Asn
    1090   1095   1100

Cys Thr Gly Thr Glu Ser His Leu Trp Gln Cys Pro Ser Arg Gly Trp
1105   1110   1115   1120

Gly Gln His Asp Cys Arg His Lys Glu Asp Ala Gly Val Ile Cys Ser
            1125   1130   1135

Glu Phe Thr Ala Leu Arg Leu Tyr Ser Glu Thr Glu Thr Glu Ser Cys
        1140   1145   1150

Ala Gly Arg Leu Glu Val Phe Tyr Asn Gly Thr Trp Gly Ser Val Gly
    1155   1160   1165

Arg Arg Asn Ile Thr Thr Ala Ile Ala Gly Ile Val Cys Arg Gln Leu
    1170   1175   1180

Gly Cys Gly Glu Asn Gly Val Val Ser Leu Ala Pro Leu Ser Lys Thr
1185   1190   1195   1200

257

Gly Ser Gly Phe Met Trp Val Asp Asp Ile Gln Cys Pro Lys Thr His
          1205   1210   1215

Ile Ser Ile Trp Gln Cys Leu Ser Ala Pro Trp Glu Arg Arg Ile Ser
          1220   1225   1230

Ser Pro Ala Glu Glu Thr Trp Ile Thr Cys Glu Asp Arg Ile Arg Val
          1235   1240   1245

Arg Gly Gly Asp Thr Glu Cys Ser Gly Arg Val Glu Ile Trp His Ala
          1250   1255   1260

Gly Ser Trp Gly Thr Val Cys Asp Asp Ser Trp Asp Leu Ala Glu Ala
     1265   1270   1275   1280

Glu Val Val Cys Gln Gln Leu Gly Cys Gly Ser Ala Leu Ala Ala Leu
          1285   1290   1295

Arg Asp Ala Ser Phe Gly Gln Gly Thr Gly Thr Ile Trp Leu Asp Asp
          1300   1305   1310

Met Arg Cys Lys Gly Asn Glu Ser Phe Leu Trp Asp Cys His Ala Lys
          1315   1320   1325

Pro Trp Gly Gln Ser Asp Cys Gly His Lys Glu Asp Ala Gly Val Arg
     1330   1335   1340

Cys Ser Gly Gln Ser Leu Lys Ser Leu Asn Ala Ser Ser Gly His Leu
1345   1350   1355   1360

Ala Leu Ile Leu Ser Ser Ile Phe Gly Leu Leu Leu Leu Val Leu Phe
          1365   1370   1375

Ile Leu Phe Leu Thr Trp Cys Arg Val Gln Lys Gln Lys His Leu Pro
          1380   1385   1390

Leu Arg Val Ser Thr Arg Arg Arg Gly Ser Leu Glu Glu Asn Leu Phe
          1395   1400   1405

His Glu Met Glu Thr Cys Leu Lys Arg Glu Asp Pro His Gly Thr Arg
     1410   1415   1420

Thr Ser Asp Asp Thr Pro Asn His Gly Cys Glu Asp Ala Ser Asp Thr
1425   1430   1435   1440

Ser Leu Leu Gly Val Leu Pro Ala Ser Glu Ala Thr Lys
          1445   1450

258

<210> 382
<211> 40
<212> PRT
<213> Homo sapiens

<400> 382
Met Met Leu Pro Gln Asn Ser Trp His Ile Asp Phe Gly Arg Cys Cys
1   5   10   15

Cys His Gln Asn Leu Phe Ser Ala Val Val Thr Cys Ile Leu Leu Leu
            20   25   30

Asn Ser Cys Phe Leu Ile Ser Ser
        35   40

<210> 383
<211> 1413
<212> PRT
<213> Homo sapiens

<400> 383
Phe Asn Gly Thr Asp Leu Glu Leu Arg Leu Val Asn Gly Asp Gly Pro
1   5   10   15

Cys Ser Gly Thr Val Glu Val Lys Phe Gln Gly Gln Trp Gly Thr Val
            20   25   30

Cys Asp Asp Gly Trp Asn Thr Thr Ala Ser Thr Val Val Cys Lys Gln
        35   40   45

Leu Gly Cys Pro Phe Ser Phe Ala Met Phe Arg Phe Gly Gln Ala Val
    50   55   60

Thr Arg His Gly Lys Ile Trp Leu Asp Asp Val Ser Cys Tyr Gly Asn
65   70   75   80

Glu Ser Ala Leu Trp Glu Cys Gln His Arg Glu Trp Gly Ser His Asn
                85   90   95

Cys Tyr His Gly Glu Asp Val Gly Val Asn Cys Tyr Gly Glu Ala Asn
            100   105   110

Leu Gly Leu Arg Leu Val Asp Gly Asn Asn Ser Cys Ser Gly Arg Val
            115   120   125

Glu Val Lys Phe Gln Glu Arg Trp Gly Thr Ile Cys Asp Asp Gly Trp

259

Asn Leu Asn Thr Ala Ala Val Val Cys Arg Gln Leu Gly Cys Pro Ser
145   150   155   160

Ser Phe Ile Ser Ser Gly Val Val Asn Ser Pro Ala Val Leu Arg Pro
                    165   170   175

Ile Trp Leu Asp Asp Ile Leu Cys Gln Gly Asn Glu Leu Ala Leu Trp
                    180   185   190

Asn Cys Arg His Arg Gly Trp Gly Asn His Asp Cys Ser His Asn Glu
                    195   200   205

Asp Val Thr Leu Thr Cys Tyr Asp Ser Ser Asp Leu Glu Leu Arg Leu
                    210   215   220

Val Gly Gly Thr Asn Arg Cys Met Gly Arg Val Glu Leu Lys Ile Gln
225   230   235   240

Gly Arg Trp Gly Thr Val Cys His His Lys Trp Asn Asn Ala Ala Ala
                    245   250   255

Asp Val Val Cys Lys Gln Leu Gly Cys Gly Thr Ala Leu His Phe Ala
                    260   265   270

Gly Leu Pro His Leu Gln Ser Gly Ser Asp Val Val Trp Leu Asp Gly
                    275   280   285

Val Ser Cys Ser Gly Asn Glu Ser Phe Leu Trp Asp Cys Arg His Ser
                    290   295   300

Gly Thr Val Asn Phe Asp Cys Leu His Gln Asn Asp Val Ser Val Ile
305   310   315   320

Cys Ser Asp Gly Ala Asp Leu Glu Leu Arg Leu Ala Asp Gly Ser Asn
                    325   330   335

Asn Cys Ser Gly Arg Val Glu Val Arg Ile His Glu Gln Trp Trp Thr
                    340   345   350

Ile Cys Asp Gln Asn Trp Lys Asn Glu Gln Ala Leu Val Val Cys Lys
                    355   360   365

Gln Leu Gly Cys Pro Phe Ser Val Phe Gly Ser Arg Arg Ala Lys Pro
370   375   380

Ser Asn Glu Ala Arg Asp Ile Trp Ile Asn Ser Ile Ser Cys Thr Gly

260

Asn Glu Ser Ala Leu Trp Asp Cys Thr Tyr Asp Gly Lys Ala Lys Arg
          405   410   415

Thr Cys Phe Arg Arg Ser Asp Ala Gly Val Ile Cys Ser Asp Lys Ala
          420   425   430

Asp Leu Asp Leu Arg Leu Val Gly Ala His Ser Pro Cys Tyr Gly Arg
          435   440   445

Leu Glu Val Lys Tyr Gln Gly Glu Trp Gly Thr Val Cys His Asp Arg
          450   455   460

Trp Ser Thr Arg Asn Ala Ala Val Val Cys Lys Gln Leu Gly Cys Gly
465   470   475   480

Lys Pro Met His Val Phe Gly Met Thr Tyr Phe Lys Glu Ala Ser Gly
          485   490   495

Pro Ile Trp Leu Asp Asp Val Ser Cys Ile Gly Asn Glu Ser Asn Ile
          500   505   510

Trp Asp Cys Glu His Ser Gly Trp Gly Lys His Asn Cys Val His Arg
          515   520   525

Glu Asp Val Ile Val Thr Cys Ser Gly Asp Ala Thr Trp Gly Leu Arg
          530   535   540

Leu Val Gly Gly Ser Asn Arg Cys Ser Gly Arg Leu Glu Val Tyr Phe
545   550   555   560

Gln Gly Arg Trp Gly Thr Val Cys Asp Asp Gly Trp Asn Ser Lys Ala
          565   570   575

Ala Ala Val Val Cys Ser Gln Leu Asp Cys Pro Ser Ser Ile Ile Gly
          580   585   590

Met Gly Leu Gly Asn Ala Ser Thr Gly Tyr Gly Lys Ile Trp Leu Asp
          595   600   605

Asp Val Ser Cys Asp Gly Asp Glu Ser Asp Leu Trp Ser Cys Arg Asn
          610   615   620

Ser Gly Trp Gly Asn Asn Asp Cys Ser His Ser Glu Asp Val Gly Val
625   630   635   640

Ile Cys Ser Asp Ala Ser Asp Met Glu Leu Arg Leu Val Gly Gly Ser

Ser Arg Cys Ala Gly Lys Val Glu Val Asn Val Gln Gly Ala Val Gly
        660   665   670

Ile Leu Cys Ala Asn Gly Trp Gly Met Asn Ile Ala Glu Val Val Cys
        675   680   685

Arg Gln Leu Glu Cys Gly Ser Ala Ile Arg Val Ser Arg Glu Pro His
        690   695   700

Phe Thr Glu Arg Thr Leu His Ile Leu Met Ser Asn Ser Gly Cys Thr
705   710   715   720

Gly Gly Glu Ala Ser Leu Trp Asp Cys Ile Arg Trp Glu Trp Lys Gln
        725   730   735

Thr Ala Cys His Leu Asn Met Glu Ala Ser Leu Ile Cys Ser Ala His
        740   745   750

Arg Gln Pro Arg Leu Val Gly Ala Asp Met Pro Cys Ser Gly Arg Val
        755   760   765

Glu Val Lys His Ala Asp Thr Trp Arg Ser Val Cys Asp Ser Asp Phe
        770   775   780

Ser Leu His Ala Ala Asn Val Leu Cys Arg Glu Leu Asn Cys Gly Asp
785   790   795   800

Ala Ile Ser Leu Ser Val Gly Asp His Phe Gly Lys Gly Asn Gly Leu
        805   810   815

Thr Trp Ala Glu Lys Phe Gln Cys Glu Gly Ser Glu Thr His Leu Ala
        820   825   830

Leu Cys Pro Ile Val Gln His Pro Glu Asp Thr Cys Ile His Ser Arg
        835   840   845

Glu Val Gly Val Val Cys Ser Arg Tyr Thr Asp Val Arg Leu Val Asn
        850   855   860

Gly Lys Ser Gln Cys Asp Gly Gln Val Glu Ile Asn Val Leu Gly His
865   870   875   880

Trp Gly Ser Leu Cys Asp Thr His Trp Asp Pro Glu Asp Ala Arg Val
        885   890   895

Leu Cys Arg Gln Leu Ser Cys Gly Thr Ala Leu Ser Thr Thr Gly Gly

262

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            900                   905                        910
    Lys Tyr Ile Gly Glu Arg Ser Val Arg Val Trp Gly His Arg Phe His
            915                   920                   925

    Cys Leu Gly Asn Glu Ser Leu Leu Asp Asn Cys Gln Met Thr Val Leu
            930                   935                   940

    Gly Ala Pro Pro Cys Ile His Gly Asn Thr Val Ser Val Ile Cys Thr
    945                   950                   955                   960

    Gly Ser Leu Thr Gln Pro Leu Phe Pro Cys Leu Ala Asn Val Ser Asp
                    965                   970                   975

    Pro Tyr Leu Ser Ala Val Pro Glu Gly Ser Ala Leu Ile Cys Leu Glu
                    980                   985                   990

    Asp Lys Arg Leu Arg Leu Val Asp Gly Asp Ser Arg Cys Ala Gly Arg
                    995                   1000                  1005

    Val Glu Ile Tyr His Asp Gly Phe Trp Gly Thr Ile Cys Asp Asp Gly
            1010                  1015                  1020

    Trp Asp Leu Ser Asp Ala His Val Val Cys Gln Lys Leu Gly Cys Gly
    1025                  1030                  1035                  1040

    Val Ala Phe Asn Ala Thr Val Ser Ala His Phe Gly Glu Gly Ser Gly
                    1045                  1050                  1055

    Pro Ile Trp Leu Asp Asp Leu Asn Cys Thr Gly Thr Glu Ser His Leu
                    1060                  1065                  1070

    Trp Gln Cys Pro Ser Arg Gly Trp Gly Gln His Asp Cys Arg His Lys
                1075                  1080                  1085

    Glu Asp Ala Gly Val Ile Cys Ser Glu Phe Thr Ala Leu Arg Leu Tyr
            1090                  1095                  1100

    Ser Glu Thr Glu Thr Glu Ser Cys Ala Gly Arg Leu Glu Val Phe Tyr
    1105                  1110                  1115                  1120

    Asn Gly Thr Trp Gly Ser Val Gly Arg Arg Asn Ile Thr Thr Ala Ile
                1125                  1130                  1135

    Ala Gly Ile Val Cys Arg Gln Leu Gly Cys Gly Glu Asn Gly Val Val
                1140                  1145                  1150

    Ser Leu Ala Pro Leu Ser Lys Thr Gly Ser Gly Phe Met Trp Val Asp
```

```
Asp Ile Gln Cys Pro Lys Thr His Ile Ser Ile Trp Gln Cys Leu Ser
    1170                 1175                 1180

Ala Pro Trp Glu Arg Arg Ile Ser Ser Pro Ala Glu Glu Thr Trp Ile
1185                 1190                 1195                 1200

Thr Cys Glu Asp Arg Ile Arg Val Arg Gly Gly Asp Thr Glu Cys Ser
                1205                 1210                 1215

Gly Arg Val Glu Ile Trp His Ala Gly Ser Trp Gly Thr Val Cys Asp
                1220                 1225                 1230

Asp Ser Trp Asp Leu Ala Glu Ala Glu Val Val Cys Gln Gln Leu Gly
            1235                 1240                 1245

Cys Gly Ser Ala Leu Ala Ala Leu Arg Asp Ala Ser Phe Gly Gln Gly
        1250                 1255                 1260

Thr Gly Thr Ile Trp Leu Asp Asp Met Arg Cys Lys Gly Asn Glu Ser
1265                 1270                 1275                 1280

Phe Leu Trp Asp Cys His Ala Lys Pro Trp Gly Gln Ser Asp Cys Gly
            1285                 1290                 1295

His Lys Glu Asp Ala Gly Val Arg Cys Ser Gly Gln Ser Leu Lys Ser
                1300                 1305                 1310

Leu Asn Ala Ser Ser Gly His Leu Ala Leu Ile Leu Ser Ser Ile Phe
            1315                 1320                 1325

Gly Leu Leu Leu Leu Val Leu Phe Ile Leu Phe Leu Thr Trp Cys Arg
        1330                 1335                 1340

Val Gln Lys Gln Lys His Leu Pro Leu Arg Val Ser Thr Arg Arg Arg
1345                 1350                 1355                 1360

Gly Ser Leu Glu Glu Asn Leu Phe His Glu Met Glu Thr Cys Leu Lys
            1365                 1370                 1375

Arg Glu Asp Pro His Gly Thr Arg Thr Ser Asp Asp Thr Pro Asn His
            1380                 1385                 1390

Gly Cys Glu Asp Ala Ser Asp Thr Ser Leu Leu Gly Val Leu Pro Ala
        1395                 1400                 1405

Ser Glu Ala Thr Lys
```

1410

<210> 384
<211> 1319
<212> PRT
<213> Homo sapiens

<400> 384
Phe Asn Gly Thr Asp Leu Glu Leu Arg Leu Val Asn Gly Asp Gly Pro
1   5   10   15

Cys Ser Gly Thr Val Glu Val Lys Phe Gln Gly Gln Trp Gly Thr Val
            20   25   30

Cys Asp Asp Gly Trp Asn Thr Thr Ala Ser Thr Val Val Cys Lys Gln
            35   40   45

Leu Gly Cys Pro Phe Ser Phe Ala Met Phe Arg Phe Gly Gln Ala Val
        50   55   60

Thr Arg His Gly Lys Ile Trp Leu Asp Asp Val Ser Cys Tyr Gly Asn
65   70   75   80

Glu Ser Ala Leu Trp Glu Cys Gln His Arg Glu Trp Gly Ser His Asn
                85   90   95

Cys Tyr His Gly Glu Asp Val Gly Val Asn Cys Tyr Gly Glu Ala Asn
            100   105   110

Leu Gly Leu Arg Leu Val Asp Gly Asn Asn Ser Cys Ser Gly Arg Val
        115   120   125

Glu Val Lys Phe Gln Glu Arg Trp Gly Thr Ile Cys Asp Asp Gly Trp
        130   135   140

Asn Leu Asn Thr Ala Ala Val Val Cys Arg Gln Leu Gly Cys Pro Ser
145   150   155   160

Ser Phe Ile Ser Ser Gly Val Val Asn Ser Pro Ala Val Leu Arg Pro
                165   170   175

Ile Trp Leu Asp Asp Ile Leu Cys Gln Gly Asn Glu Leu Ala Leu Trp
            180   185   190

Asn Cys Arg His Arg Gly Trp Gly Asn His Asp Cys Ser His Asn Glu
        195   200   205

265

```
Asp Val Thr Leu Thr Cys Tyr Asp Ser Ser Asp Leu Glu Leu Arg Leu
    210                 215                 220

Val Gly Gly Thr Asn Arg Cys Met Gly Arg Val Glu Leu Lys Ile Gln
225                 230                 235                 240

Gly Arg Trp Gly Thr Val Cys His His Lys Trp Asn Asn Ala Ala Ala
            245                 250                 255

Asp Val Val Cys Lys Gln Leu Gly Cys Gly Thr Ala Leu His Phe Ala
            260                 265                 270

Gly Leu Pro His Leu Gln Ser Gly Ser Asp Val Val Trp Leu Asp Gly
        275                 280                 285

Val Ser Cys Ser Gly Asn Glu Ser Phe Leu Trp Asp Cys Arg His Ser
    290                 295                 300

Gly Thr Val Asn Phe Asp Cys Leu His Gln Asn Asp Val Ser Val Ile
305                 310                 315                 320

Cys Ser Asp Gly Ala Asp Leu Glu Leu Arg Leu Ala Asp Gly Ser Asn
            325                 330                 335

Asn Cys Ser Gly Arg Val Glu Val Arg Ile His Glu Gln Trp Trp Thr
            340                 345                 350

Ile Cys Asp Gln Asn Trp Lys Asn Glu Gln Ala Leu Val Val Cys Lys
        355                 360                 365

Gln Leu Gly Cys Pro Phe Ser Val Phe Gly Ser Arg Arg Ala Lys Pro
    370                 375                 380

Ser Asn Glu Ala Arg Asp Ile Trp Ile Asn Ser Ile Ser Cys Thr Gly
385                 390                 395                 400

Asn Glu Ser Ala Leu Trp Asp Cys Thr Tyr Asp Gly Lys Ala Lys Arg
            405                 410                 415

Thr Cys Phe Arg Arg Ser Asp Ala Gly Val Ile Cys Ser Asp Lys Ala
            420                 425                 430

Asp Leu Asp Leu Arg Leu Val Gly Ala His Ser Pro Cys Tyr Gly Arg
        435                 440                 445

Leu Glu Val Lys Tyr Gln Gly Glu Trp Gly Thr Val Cys His Asp Arg
    450                 455                 460
```

266

```
Trp Ser Thr Arg Asn Ala Ala Val Val Cys Lys Gln Leu Gly Cys Gly
465                 470                 475                 480

Lys Pro Met His Val Phe Gly Met Thr Tyr Phe Lys Glu Ala Ser Gly
                485                 490                 495

Pro Ile Trp Leu Asp Asp Val Ser Cys Ile Gly Asn Glu Ser Asn Ile
            500                 505                 510

Trp Asp Cys Glu His Ser Gly Trp Gly Lys His Asn Cys Val His Arg
        515                 520                 525

Glu Asp Val Ile Val Thr Cys Ser Gly Asp Ala Thr Trp Gly Leu Arg
    530                 535                 540

Leu Val Gly Gly Ser Asn Arg Cys Ser Gly Arg Leu Glu Val Tyr Phe
545                 550                 555                 560

Gln Gly Arg Trp Gly Thr Val Cys Asp Asp Gly Trp Asn Ser Lys Ala
            565                 570                 575

Ala Ala Val Val Cys Ser Gln Leu Asp Cys Pro Ser Ser Ile Ile Gly
            580                 585                 590

Met Gly Leu Gly Asn Ala Ser Thr Gly Tyr Gly Lys Ile Trp Leu Asp
        595                 600                 605

Asp Val Ser Cys Asp Gly Asp Glu Ser Asp Leu Trp Ser Cys Arg Asn
        610                 615                 620

Ser Gly Trp Gly Asn Asn Asp Cys Ser His Ser Glu Asp Val Gly Val
625                 630                 635                 640

Ile Cys Ser Asp Ala Ser Asp Met Glu Leu Arg Leu Val Gly Gly Ser
            645                 650                 655

Ser Arg Cys Ala Gly Lys Val Glu Val Asn Val Gln Gly Ala Val Gly
            660                 665                 670

Ile Leu Cys Ala Asn Gly Trp Gly Met Asn Ile Ala Glu Val Val Cys
        675                 680                 685

Arg Gln Leu Glu Cys Gly Ser Ala Ile Arg Val Ser Arg Glu Pro His
    690                 695                 700

Phe Thr Glu Arg Thr Leu His Ile Leu Met Ser Asn Ser Gly Cys Thr
705                 710                 715                 720
```

267

```
Gly Gly Glu Ala Ser Leu Trp Asp Cys Ile Arg Trp Glu Trp Lys Gln
            725                 730                 735

Thr Ala Cys His Leu Asn Met Glu Ala Ser Leu Ile Cys Ser Ala His
            740                 745                 750

Arg Gln Pro Arg Leu Val Gly Ala Asp Met Pro Cys Ser Gly Arg Val
            755                 760                 765

Glu Val Lys His Ala Asp Thr Trp Arg Ser Val Cys Asp Ser Asp Phe
        770                 775                 780

Ser Leu His Ala Ala Asn Val Leu Cys Arg Glu Leu Asn Cys Gly Asp
785                 790                 795                 800

Ala Ile Ser Leu Ser Val Gly Asp His Phe Gly Lys Gly Asn Gly Leu
                805                 810                 815

Thr Trp Ala Glu Lys Phe Gln Cys Glu Gly Ser Glu Thr His Leu Ala
            820                 825                 830

Leu Cys Pro Ile Val Gln His Pro Glu Asp Thr Cys Ile His Ser Arg
            835                 840                 845

Glu Val Gly Val Val Cys Ser Arg Tyr Thr Asp Val Arg Leu Val Asn
        850                 855                 860

Gly Lys Ser Gln Cys Asp Gly Gln Val Glu Ile Asn Val Leu Gly His
865                 870                 875                 880

Trp Gly Ser Leu Cys Asp Thr His Trp Asp Pro Glu Asp Ala Arg Val
            885                 890                 895

Leu Cys Arg Gln Leu Ser Cys Gly Thr Ala Leu Ser Thr Thr Gly Gly
            900                 905                 910

Lys Tyr Ile Gly Glu Arg Ser Val Arg Val Trp Gly His Arg Phe His
            915                 920                 925

Cys Leu Gly Asn Glu Ser Leu Leu Asp Asn Cys Gln Met Thr Val Leu
            930                 935                 940

Gly Ala Pro Pro Cys Ile His Gly Asn Thr Val Ser Val Ile Cys Thr
945                 950                 955                 960

Gly Ser Leu Thr Gln Pro Leu Phe Pro Cys Leu Ala Asn Val Ser Asp
                965                 970                 975
```

268

Pro Tyr Leu Ser Ala Val Pro Glu Gly Ser Ala Leu Ile Cys Leu Glu
        980   985   990

Asp Lys Arg Leu Arg Leu Val Asp Gly Asp Ser Arg Cys Ala Gly Arg
        995   1000   1005

Val Glu Ile Tyr His Asp Gly Phe Trp Gly Thr Ile Cys Asp Asp Gly
    1010   1015   1020

Trp Asp Leu Ser Asp Ala His Val Val Cys Gln Lys Leu Gly Cys Gly
1025   1030   1035   1040

Val Ala Phe Asn Ala Thr Val Ser Ala His Phe Gly Glu Gly Ser Gly
        1045   1050   1055

Pro Ile Trp Leu Asp Asp Leu Asn Cys Thr Gly Thr Glu Ser His Leu
        1060   1065   1070

Trp Gln Cys Pro Ser Arg Gly Trp Gly Gln His Asp Cys Arg His Lys
        1075   1080   1085

Glu Asp Ala Gly Val Ile Cys Ser Glu Phe Thr Ala Leu Arg Leu Tyr
    1090   1095   1100

Ser Glu Thr Glu Thr Glu Ser Cys Ala Gly Arg Leu Glu Val Phe Tyr
1105   1110   1115   1120

Asn Gly Thr Trp Gly Ser Val Gly Arg Arg Asn Ile Thr Thr Ala Ile
        1125   1130   1135

Ala Gly Ile Val Cys Arg Gln Leu Gly Cys Gly Glu Asn Gly Val Val
        1140   1145   1150

Ser Leu Ala Pro Leu Ser Lys Thr Gly Ser Gly Phe Met Trp Val Asp
    1155   1160   1165

Asp Ile Gln Cys Pro Lys Thr His Ile Ser Ile Trp Gln Cys Leu Ser
    1170   1175   1180

Ala Pro Trp Glu Arg Arg Ile Ser Ser Pro Ala Glu Glu Thr Trp Ile
1185   1190   1195   1200

Thr Cys Glu Asp Arg Ile Arg Val Arg Gly Gly Asp Thr Glu Cys Ser
        1205   1210   1215

Gly Arg Val Glu Ile Trp His Ala Gly Ser Trp Gly Thr Val Cys Asp
        1220   1225   1230

269

Asp Ser Trp Asp Leu Ala Glu Ala Glu Val Val Cys Gln Gln Leu Gly
        1235   1240   1245

Cys Gly Ser Ala Leu Ala Ala Leu Arg Asp Ala Ser Phe Gly Gln Gly
        1250   1255   1260

Thr Gly Thr Ile Trp Leu Asp Asp Met Arg Cys Lys Gly Asn Glu Ser
   1265   1270   1275   1280

Phe Leu Trp Asp Cys His Ala Lys Pro Trp Gly Gln Ser Asp Cys Gly
            1285   1290   1295

His Lys Glu Asp Ala Gly Val Arg Cys Ser Gly Gln Ser Leu Lys Ser
            1300   1305   1310

Leu Asn Ala Ser Ser Gly His
        1315

<210> 385
<211> 24
<212> PRT
<213> Homo sapiens

<400> 385
Leu Ala Leu Ile Leu Ser Ser Ile Phe Gly Leu Leu Leu Leu Val Leu
   1   5   10   15

Phe Ile Leu Phe Leu Thr Trp Cys
            20

<210> 386
<211> 70
<212> PRT
<213> Homo sapiens

<400> 386
Arg Val Gln Lys Gln Lys His Leu Pro Leu Arg Val Ser Thr Arg Arg
   1   5   10   15

Arg Gly Ser Leu Glu Glu Asn Leu Phe His Glu Met Glu Thr Cys Leu
            20   25   30

Lys Arg Glu Asp Pro His Gly Thr Arg Thr Ser Asp Asp Thr Pro Asn
        35   40   45

His Gly Cys Glu Asp Ala Ser Asp Thr Ser Leu Leu Gly Val Leu Pro

Ala Ser Glu Ala Thr Lys
 65   70

<210> 387
<211> 3104
<212> DNA
<213> Homo sapiens

<400> 387
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cgcgggggga ggcgggcagg ggcccatgcc cagggtcaga tactatgcag gggatgaacg 180
tagggcactt agcttcttcc accagaaggg cctccaggat tttgacactc tgctcctgag 240
tggtgatgga aatactctct acgtggggggc tcgagaagcc attctggcct ggatatcca 300
ggatccaggg gtccccaggc taaagaacat gataccgtgg ccagccagtg acagaaaaaa 360
gagtgaatgt gcctttaaga agaagagcaa tgagacacag tgtttcaact tcatccgtgt 420
cctggtttct tacaatgtca cccatctcta cacctgcggc accttcgcct tcagccctgc 480
ttgtaccttc attgaacttc aagattccta cctgttgccc atctcggagg acaaggtcat 540
ggagggaaaa ggccaaagcc cctttgaccc cgctcacaag catacggctg tcttggtgga 600
tgggatgctc tattctggta ctatgaacaa cttcctgggc agtgagccca tcctgatgcg 660
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271

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gcttaaaaaa aaaaaaaaa aaaaaaaaa aaaagggcgg ccgc                      3104


<210> 388
<211> 2283
<212> DNA
<213> Homo sapiens


<400> 388
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agggtcagat actatgcagg ggatgaacgt agggcactta gcttcttcca ccagaagggc 180
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cagctgttcc ctgaccctga acctgttcgc aacctgcagc tggccccac ccagggtgca 1440
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272

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<210> 389
<211> 761
<212> PRT
<213> Homo sapiens

<400> 389

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Met Ala Leu Pro Ala Leu Gly Leu Asp Pro Trp Ser Leu Leu Gly Leu
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Phe Leu Phe Gln Leu Leu Gln Leu Leu Leu Pro Thr Thr Thr Ala Gly
            20                  25                  30

Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr Ala Gly Asp
        35                  40                  45

Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly Leu Gln Asp Phe
    50                  55                  60

Asp Thr Leu Leu Leu Ser Gly Asp Gly Asn Thr Leu Tyr Val Gly Ala
65                  70                  75                  80

Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln Asp Pro Gly Val Pro Arg
                85                  90                  95

Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Asp Arg Lys Lys Ser Glu
            100                 105                 110

Cys Ala Phe Lys Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe Ile
            115                 120                 125

Arg Val Leu Val Ser Tyr Asn Val Thr His Leu Tyr Thr Cys Gly Thr
```

273

Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser Tyr
145   150   155   160

Leu Leu Pro Ile Ser Glu Asp Lys Val Met Glu Gly Lys Gly Gln Ser
                165   170   175

Pro Phe Asp Pro Ala His Lys His Thr Ala Val Leu Val Asp Gly Met
            180   185   190

Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu
            195   200   205

Met Arg Thr Leu Gly Ser Gln Pro Val Leu Lys Thr Asp Asn Phe Leu
    210   215   220

Arg Trp Leu His His Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr
225   230   235   240

Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp Phe
            245   250   255

Phe Glu Arg Leu His Thr Ser Arg Val Ala Arg Val Cys Lys Asn Asp
            260   265   270

Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu Lys
            275   280   285

Ala Gln Leu Leu Cys Thr Gln Pro Gly Gln Leu Pro Phe Asn Val Ile
    290   295   300

Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Thr Ala Pro His Ile
305   310   315   320

Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser Ser
            325   330   335

Ala Val Cys Ala Phe Ser Leu Leu Asp Ile Glu Arg Val Phe Lys Gly
            340   345   350

Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr Arg
    355   360   365

Gly Pro Glu Thr Asn Pro Arg Pro Gly Ser Cys Ser Val Gly Pro Ser
    370   375   380

Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp Glu

```
Gln Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr Thr
              405                410                415

Arg Leu Ala Val Glu Thr Ala Gln Gly Leu Asp Gly His Ser His Leu
              420                425                430

Val Met Tyr Leu Gly Thr Thr Thr Gly Ser Leu His Lys Ala Val Val
              435                440                445

Ser Gly Asp Ser Ser Ala His Leu Val Glu Glu Ile Gln Leu Phe Pro
          450                455                460

Asp Pro Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Thr Gln Gly Ala
465                470                475                480

Val Phe Val Gly Phe Ser Gly Gly Val Trp Arg Val Pro Arg Ala Asn
              485                490                495

Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp Pro
              500                505                510

His Cys Ala Trp Asp Pro Glu Ser Arg Thr Cys Cys Leu Leu Ser Ala
          515                520                525

Pro Asn Leu Asn Ser Trp Lys Gln Asp Met Glu Arg Gly Asn Pro Glu
          530                535                540

Trp Ala Cys Ala Ser Gly Pro Met Ser Arg Ser Leu Arg Pro Gln Ser
545                550                555                560

Arg Pro Gln Ile Ile Lys Glu Val Leu Ala Val Pro Asn Ser Ile Leu
              565                570                575

Glu Leu Pro Cys Pro His Leu Ser Ala Leu Ala Ser Tyr Tyr Trp Ser
              580                585                590

His Gly Pro Ala Ala Val Pro Glu Ala Ser Ser Thr Val Tyr Asn Gly
          595                600                605

Ser Leu Leu Leu Ile Val Gln Asp Gly Val Gly Gly Leu Tyr Gln Cys
          610                615                620

Trp Ala Thr Glu Asn Gly Phe Ser Tyr Pro Val Ile Ser Tyr Trp Val
625                630                635                640

Asp Ser Gln Asp Gln Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly Ile
```

Pro Arg Glu His Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly Ala
            660   665   670

Ala Leu Ala Ala Gln Gln Ser Tyr Trp Pro His Phe Val Thr Val Thr
        675   680   685

Val Leu Phe Ala Leu Val Leu Ser Gly Ala Leu Ile Ile Leu Val Ala
    690   695   700

Ser Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Glu
705   710   715   720

Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His Leu
            725   730   735

Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp Ala Asp
            740   745   750

Asn Asn Cys Leu Gly Thr Glu Val Ala
            755   760

<210> 390
<211> 31
<212> PRT
<213> Homo sapiens

<400> 390
Met Ala Leu Pro Ala Leu Gly Leu Asp Pro Trp Ser Leu Leu Gly Leu
    1   5   10   15

Phe Leu Phe Gln Leu Leu Gln Leu Leu Leu Pro Thr Thr Thr Ala
            20   25   30

<210> 391
<211> 730
<212> PRT
<213> Homo sapiens

<400> 391
Gly Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr Ala Gly
    1   5   10   15

Asp Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly Leu Gln Asp
            20   25   30

```
Phe Asp Thr Leu Leu Leu Ser Gly Asp Gly Asn Thr Leu Tyr Val Gly
        35                  40                  45

Ala Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln Asp Pro Gly Val Pro
        50                  55                  60

Arg Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Asp Arg Lys Lys Ser
65                  70                  75                  80

Glu Cys Ala Phe Lys Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe
                85                  90                  95

Ile Arg Val Leu Val Ser Tyr Asn Val Thr His Leu Tyr Thr Cys Gly
                100                 105                 110

Thr Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser
        115                 120                 125

Tyr Leu Leu Pro Ile Ser Glu Asp Lys Val Met Glu Gly Lys Gly Gln
        130                 135                 140

Ser Pro Phe Asp Pro Ala His Lys His Thr Ala Val Leu Val Asp Gly
145                 150                 155                 160

Met Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile
                165                 170                 175

Leu Met Arg Thr Leu Gly Ser Gln Pro Val Leu Lys Thr Asp Asn Phe
                180                 185                 190

Leu Arg Trp Leu His His Asp Ala Ser Phe Val Ala Ala Ile Pro Ser
        195                 200                 205

Thr Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp
        210                 215                 220

Phe Phe Glu Arg Leu His Thr Ser Arg Val Ala Arg Val Cys Lys Asn
225                 230                 235                 240

Asp Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu
                245                 250                 255

Lys Ala Gln Leu Leu Cys Thr Gln Pro Gly Gln Leu Pro Phe Asn Val
        260                 265                 270

Ile Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Thr Ala Pro His
        275                 280                 285

                            277
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Ile Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser
    290                 295                 300

Ser Ala Val Cys Ala Phe Ser Leu Leu Asp Ile Glu Arg Val Phe Lys
305                 310                 315                 320

Gly Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr
                325                 330                 335

Arg Gly Pro Glu Thr Asn Pro Arg Pro Gly Ser Cys Ser Val Gly Pro
            340                 345                 350

Ser Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp
        355                 360                 365

Glu Gln Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr
    370                 375                 380

Thr Arg Leu Ala Val Glu Thr Ala Gln Gly Leu Asp Gly His Ser His
385                 390                 395                 400

Leu Val Met Tyr Leu Gly Thr Thr Thr Gly Ser Leu His Lys Ala Val
                405                 410                 415

Val Ser Gly Asp Ser Ser Ala His Leu Val Glu Glu Ile Gln Leu Phe
            420                 425                 430

Pro Asp Pro Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Thr Gln Gly
        435                 440                 445

Ala Val Phe Val Gly Phe Ser Gly Gly Val Trp Arg Val Pro Arg Ala
    450                 455                 460

Asn Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp
465                 470                 475                 480

Pro His Cys Ala Trp Asp Pro Glu Ser Arg Thr Cys Cys Leu Leu Ser
            485                 490                 495

Ala Pro Asn Leu Asn Ser Trp Lys Gln Asp Met Glu Arg Gly Asn Pro
        500                 505                 510

Glu Trp Ala Cys Ala Ser Gly Pro Met Ser Arg Ser Leu Arg Pro Gln
    515                 520                 525

Ser Arg Pro Gln Ile Ile Lys Glu Val Leu Ala Val Pro Asn Ser Ile
    530                 535                 540
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Leu Glu Leu Pro Cys Pro His Leu Ser Ala Leu Ala Ser Tyr Tyr Trp
545   550   555   560

Ser His Gly Pro Ala Ala Val Pro Glu Ala Ser Ser Thr Val Tyr Asn
                565   570   575

Gly Ser Leu Leu Leu Ile Val Gln Asp Gly Val Gly Gly Leu Tyr Gln
            580   585   590

Cys Trp Ala Thr Glu Asn Gly Phe Ser Tyr Pro Val Ile Ser Tyr Trp
        595   600   605

Val Asp Ser Gln Asp Gln Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly
    610   615   620

Ile Pro Arg Glu His Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly
625   630   635   640

Ala Ala Leu Ala Ala Gln Gln Ser Tyr Trp Pro His Phe Val Thr Val
            645   650   655

Thr Val Leu Phe Ala Leu Val Leu Ser Gly Ala Leu Ile Ile Leu Val
            660   665   670

Ala Ser Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys
            675   680   685

Glu Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His
    690   695   700

Leu Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp Ala
705   710   715   720

Asp Asn Asn Cys Leu Gly Thr Glu Val Ala
                725   730

<210> 392
<211> 652
<212> PRT
<213> Homo sapiens

<400> 392
Gly Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr Ala Gly
    1   5   10   15

Asp Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly Leu Gln Asp

279

Phe Asp Thr Leu Leu Leu Ser Gly Asp Gly Asn Thr Leu Tyr Val Gly
        35   40   45

Ala Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln Asp Pro Gly Val Pro
        50   55   60

Arg Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Asp Arg Lys Lys Ser
65   70   75   80

Glu Cys Ala Phe Lys Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe
                85   90   95

Ile Arg Val Leu Val Ser Tyr Asn Val Thr His Leu Tyr Thr Cys Gly
              100   105   110

Thr Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser
              115   120   125

Tyr Leu Leu Pro Ile Ser Glu Asp Lys Val Met Glu Gly Lys Gly Gln
        130   135   140

Ser Pro Phe Asp Pro Ala His Lys His Thr Ala Val Leu Val Asp Gly
145   150   155   160

Met Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile
              165   170   175

Leu Met Arg Thr Leu Gly Ser Gln Pro Val Leu Lys Thr Asp Asn Phe
              180   185   190

Leu Arg Trp Leu His His Asp Ala Ser Phe Val Ala Ala Ile Pro Ser
              195   200   205

Thr Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp
        210   215   220

Phe Phe Glu Arg Leu His Thr Ser Arg Val Ala Arg Val Cys Lys Asn
225   230   235   240

Asp Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu
              245   250   255

Lys Ala Gln Leu Leu Cys Thr Gln Pro Gly Gln Leu Pro Phe Asn Val
              260   265   270

Ile Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Thr Ala Pro His

Ile Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser
    290   295   300

Ser Ala Val Cys Ala Phe Ser Leu Leu Asp Ile Glu Arg Val Phe Lys
305   310   315   320

Gly Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr
            325   330   335

Arg Gly Pro Glu Thr Asn Pro Arg Pro Gly Ser Cys Ser Val Gly Pro
            340   345   350

Ser Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp
            355   360   365

Glu Gln Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr
    370   375   380

Thr Arg Leu Ala Val Glu Thr Ala Gln Gly Leu Asp Gly His Ser His
385   390   395   400

Leu Val Met Tyr Leu Gly Thr Thr Thr Gly Ser Leu His Lys Ala Val
            405   410   415

Val Ser Gly Asp Ser Ser Ala His Leu Val Glu Glu Ile Gln Leu Phe
            420   425   430

Pro Asp Pro Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Thr Gln Gly
            435   440   445

Ala Val Phe Val Gly Phe Ser Gly Gly Val Trp Arg Val Pro Arg Ala
    450   455   460

Asn Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp
465   470   475   480

Pro His Cys Ala Trp Asp Pro Glu Ser Arg Thr Cys Cys Leu Leu Ser
            485   490   495

Ala Pro Asn Leu Asn Ser Trp Lys Gln Asp Met Glu Arg Gly Asn Pro
            500   505   510

Glu Trp Ala Cys Ala Ser Gly Pro Met Ser Arg Ser Leu Arg Pro Gln
            515   520   525

Ser Arg Pro Gln Ile Ile Lys Glu Val Leu Ala Val Pro Asn Ser Ile

Leu Glu Leu Pro Cys Pro His Leu Ser Ala Leu Ala Ser Tyr Tyr Trp
545   550   555   560

Ser His Gly Pro Ala Ala Val Pro Glu Ala Ser Ser Thr Val Tyr Asn
                    565   570   575

Gly Ser Leu Leu Leu Ile Val Gln Asp Gly Val Gly Gly Leu Tyr Gln
                580   585   590

Cys Trp Ala Thr Glu Asn Gly Phe Ser Tyr Pro Val Ile Ser Tyr Trp
                595   600   605

Val Asp Ser Gln Asp Gln Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly
        610   615   620

Ile Pro Arg Glu His Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly
625   630   635   640

Ala Ala Leu Ala Ala Gln Gln Ser Tyr Trp Pro His
                645   650

<210> 393
<211> 21
<212> PRT
<213> Homo sapiens

<400> 393
Phe Val Thr Val Thr Val Leu Phe Ala Leu Val Leu Ser Gly Ala Leu
 1   5   10   15

Ile Ile Leu Val Ala
            20

<210> 394
<211> 57
<212> PRT
<213> Homo sapiens

<400> 394
Ser Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Glu
 1   5   10   15

Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His Leu
            20   25   30

Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp Ala Asp
            35   40   45

Asn Asn Cys Leu Gly Thr Glu Val Ala
        50   55

<210> 395
<400> 395
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<210> 396
<400> 396
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<210> 397
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<210> 400
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<210> 401
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<210> 402
<400> 402
000

<210> 403
<211> 1980
<212> DNA
<213> Homo sapiens

<400> 403

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ctcctgcagg agatgtgtac aaagacaatc ccagtcctct ggggatgttt cctcctgtgg 180
aatctctatg tctcatcctc tcagaccatt taccctggaa tcaaggcaag gattactcag 240
agggcacttg actatggtgt tcaagctgga atgaagatga ttgagcaaat gctaaaagaa 300
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aactacaatt tttcaaatat aaaaatcagt gccttttcat ttccaaatac ctcattggct 420
tttgtgcctg gagtgggaat caaagcgcta accaaccatg cactgccaa catcagcaca 480
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atttccaacc attttgttca aaactctcaa ggccttggca acgtgctctc ccggattgca 960
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tctagtggtt ttcccctacc tgcatattgg ttttcatgtt ttatattcac tgttactatc 1920
ttctgtgttt aattaaaatt gttttctatc aaaaaaaaaa aaaaaaaaa gggcggccgc 1980
```

<210> 404
<211> 1365
<212> DNA
<213> Homo sapiens

<400> 404

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```

284

```
tcatcctctc agaccattta ccctggaatc aaggcaagga ttactcagag ggcacttgac 120
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gatttaagcg gttctgagtc tcttgaattt ctaaaagttg attatgtaaa ctacaatttt 240
tcaaatataa aaatcagtgc cttttcattt ccaaatacct cattggcttt tgtgcctgga 300
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gagtctccac tttttgttct gtataactcc tttgctgagc ccatggagaa acccattttta 420
aagaacttaa atgaaatgct ctgtcccatt attgcaagtg aagtcaaagc gctaaatgcc 480
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```

<210> 405
<211> 455
<212> PRT
<213> Homo sapiens

<400> 405
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Met Cys Thr Lys Thr Ile Pro Val Leu Trp Gly Cys Phe Leu Leu Trp
1               5                   10                  15

Asn Leu Tyr Val Ser Ser Ser Gln Thr Ile Tyr Pro Gly Ile Lys Ala
            20                  25                  30

Arg Ile Thr Gln Arg Ala Leu Asp Tyr Gly Val Gln Ala Gly Met Lys
        35                  40                  45

Met Ile Glu Gln Met Leu Lys Glu Lys Lys Leu Pro Asp Leu Ser Gly
    50                  55                  60

Ser Glu Ser Leu Glu Phe Leu Lys Val Asp Tyr Val Asn Tyr Asn Phe
65                  70                  75                  80

Ser Asn Ile Lys Ile Ser Ala Phe Ser Phe Pro Asn Thr Ser Leu Ala
                85                  90                  95
```

Phe Val Pro Gly Val Gly Ile Lys Ala Leu Thr Asn His Gly Thr Ala
                100   105   110

Asn Ile Ser Thr Asp Trp Gly Phe Glu Ser Pro Leu Phe Val Leu Tyr
                115   120   125

Asn Ser Phe Ala Glu Pro Met Glu Lys Pro Ile Leu Lys Asn Leu Asn
                130   135   140

Glu Met Leu Cys Pro Ile Ile Ala Ser Glu Val Lys Ala Leu Asn Ala
145   150   155   160

Asn Leu Ser Thr Leu Glu Val Leu Thr Lys Ile Asp Asn Tyr Thr Leu
                165   170   175

Leu Asp Tyr Ser Leu Ile Ser Ser Pro Glu Ile Thr Glu Asn Tyr Leu
                180   185   190

Asp Leu Asn Leu Lys Gly Val Phe Tyr Pro Leu Glu Asn Leu Thr Asp
                195   200   205

Pro Pro Phe Ser Pro Val Pro Phe Val Leu Pro Glu Arg Ser Asn Ser
                210   215   220

Met Leu Tyr Ile Gly Ile Ala Glu Tyr Phe Phe Lys Ser Ala Ser Phe
225   230   235   240

Ala His Phe Thr Ala Gly Val Phe Asn Leu Thr Leu Ser Thr Glu Glu
                245   250   255

Ile Ser Asn His Phe Val Gln Asn Ser Gln Gly Leu Gly Asn Val Leu
                260   265   270

Ser Arg Ile Ala Glu Ile Tyr Ile Leu Ser Gln Pro Phe Met Val Arg
                275   280   285

Ile Met Ala Thr Glu Pro Pro Ile Ile Asn Leu Gln Pro Gly Asn Phe
                290   295   300

Thr Leu Asp Ile Pro Ala Ser Ile Met Met Leu Thr Gln Pro Lys Asn
305   310   315   320

Ser Thr Val Glu Thr Ile Val Ser Met Asp Phe Val Ala Ser Thr Ser
                325   330   335

Val Gly Leu Val Ile Leu Gly Gln Arg Leu Val Cys Ser Leu Ser Leu
                340   345   350

286

Asn Arg Phe Arg Leu Ala Leu Pro Glu Ser Asn Arg Ser Asn Ile Glu
        355   360   365

Val Leu Arg Phe Glu Asn Ile Leu Ser Ser Ile Leu His Phe Gly Val
        370   375   380

Leu Pro Leu Ala Asn Ala Lys Leu Gln Gln Gly Phe Pro Leu Pro Asn
385   390   395   400

Pro His Lys Phe Leu Phe Val Asn Ser Asp Ile Glu Val Leu Glu Gly
                405   410   415

Phe Leu Leu Ile Ser Thr Asp Leu Lys Tyr Glu Thr Ser Ser Lys Gln
                420   425   430

Gln Pro Ser Phe His Val Trp Glu Gly Leu Asn Leu Ile Ser Arg Gln
        435   440   445

Trp Arg Gly Lys Ser Ala Pro
    450   455

<210> 406
<211> 23
<212> PRT
<213> Homo sapiens

<400> 406
Met Cys Thr Lys Thr Ile Pro Val Leu Trp Gly Cys Phe Leu Leu Trp
 1   5   10   15

Asn Leu Tyr Val Ser Ser Ser
                20

<210> 407
<211> 432
<212> PRT
<213> Homo sapiens

<400> 407
Gln Thr Ile Tyr Pro Gly Ile Lys Ala Arg Ile Thr Gln Arg Ala Leu
 1   5   10   15

Asp Tyr Gly Val Gln Ala Gly Met Lys Met Ile Glu Gln Met Leu Lys
                20   25   30

Glu Lys Lys Leu Pro Asp Leu Ser Gly Ser Glu Ser Leu Glu Phe Leu

287

```
                35                      40                      45
Lys Val Asp Tyr Val Asn Tyr Asn Phe Ser Asn Ile Lys Ile Ser Ala
     50                  55                  60

Phe Ser Phe Pro Asn Thr Ser Leu Ala Phe Val Pro Gly Val Gly Ile
  65                  70                  75                  80

Lys Ala Leu Thr Asn His Gly Thr Ala Asn Ile Ser Thr Asp Trp Gly
             85                  90                  95

Phe Glu Ser Pro Leu Phe Val Leu Tyr Asn Ser Phe Ala Glu Pro Met
             100                 105                 110

Glu Lys Pro Ile Leu Lys Asn Leu Asn Glu Met Leu Cys Pro Ile Ile
         115                 120                 125

Ala Ser Glu Val Lys Ala Leu Asn Ala Asn Leu Ser Thr Leu Glu Val
     130                 135                 140

Leu Thr Lys Ile Asp Asn Tyr Thr Leu Leu Asp Tyr Ser Leu Ile Ser
145                 150                 155                 160

Ser Pro Glu Ile Thr Glu Asn Tyr Leu Asp Leu Asn Leu Lys Gly Val
             165                 170                 175

Phe Tyr Pro Leu Glu Asn Leu Thr Asp Pro Pro Phe Ser Pro Val Pro
             180                 185                 190

Phe Val Leu Pro Glu Arg Ser Asn Ser Met Leu Tyr Ile Gly Ile Ala
         195                 200                 205

Glu Tyr Phe Phe Lys Ser Ala Ser Phe Ala His Phe Thr Ala Gly Val
     210                 215                 220

Phe Asn Leu Thr Leu Ser Thr Glu Glu Ile Ser Asn His Phe Val Gln
225                 230                 235                 240

Asn Ser Gln Gly Leu Gly Asn Val Leu Ser Arg Ile Ala Glu Ile Tyr
             245                 250                 255

Ile Leu Ser Gln Pro Phe Met Val Arg Ile Met Ala Thr Glu Pro Pro
             260                 265                 270

Ile Ile Asn Leu Gln Pro Gly Asn Phe Thr Leu Asp Ile Pro Ala Ser
         275                 280                 285

Ile Met Met Leu Thr Gln Pro Lys Asn Ser Thr Val Glu Thr Ile Val
```

Ser Met Asp Phe Val Ala Ser Thr Ser Val Gly Leu Val Ile Leu Gly
305   310   315   320

Gln Arg Leu Val Cys Ser Leu Ser Leu Asn Arg Phe Arg Leu Ala Leu
                    325   330   335

Pro Glu Ser Asn Arg Ser Asn Ile Glu Val Leu Arg Phe Glu Asn Ile
                340   345   350

Leu Ser Ser Ile Leu His Phe Gly Val Leu Pro Leu Ala Asn Ala Lys
                355   360   365

Leu Gln Gln Gly Phe Pro Leu Pro Asn Pro His Lys Phe Leu Phe Val
        370   375   380

Asn Ser Asp Ile Glu Val Leu Glu Gly Phe Leu Leu Ile Ser Thr Asp
385   390   395   400

Leu Lys Tyr Glu Thr Ser Ser Lys Gln Gln Pro Ser Phe His Val Trp
                405   410   415

Glu Gly Leu Asn Leu Ile Ser Arg Gln Trp Arg Gly Lys Ser Ala Pro
                420   425   430

<210> 408
<211> 483
<212> PRT
<213> Homo sapiens

<400> 408
Met Ala Arg Gly Pro Cys Asn Ala Pro Arg Trp Val Ser Leu Met Val
 1   5   10   15

Leu Val Ala Ile Gly Thr Ala Val Thr Ala Ala Val Asn Pro Gly Val
                20   25   30

Val Val Arg Ile Ser Gln Lys Gly Leu Asp Tyr Ala Ser Gln Gln Gly
            35   40   45

Thr Ala Ala Leu Gln Lys Glu Leu Lys Arg Ile Lys Ile Pro Asp Tyr
        50   55   60

```
Ser Asp Ser Phe Lys Ile Lys His Leu Gly Lys Gly His Tyr Ser Phe
65                  70                  75                  80

Tyr Ser Met Asp Ile Arg Glu Phe Gln Leu Pro Ser Ser Gln Ile Ser
                85                  90                  95

Met Val Pro Asn Val Gly Leu Lys Phe Ser Ile Ser Asn Ala Asn Ile
                100                 105                 110

Lys Ile Ser Gly Lys Trp Lys Ala Gln Lys Arg Phe Leu Lys Met Ser
                115                 120                 125

Gly Asn Phe Asp Leu Ser Ile Glu Gly Met Ser Ile Ser Ala Asp Leu
        130                 135                 140

Lys Leu Gly Ser Asn Pro Thr Ser Gly Lys Pro Thr Ile Thr Cys Ser
145                 150                 155                 160

Ser Cys Ser Ser His Ile Asn Ser Val His Val His Ile Ser Lys Ser
                165                 170                 175

Lys Val Gly Trp Leu Ile Gln Leu Phe His Lys Lys Ile Glu Ser Ala
                180                 185                 190

Leu Arg Asn Lys Met Asn Ser Gln Val Cys Glu Lys Val Thr Asn Ser
        195                 200                 205

Val Ser Ser Lys Leu Gln Pro Tyr Phe Gln Thr Leu Pro Val Met Thr
        210                 215                 220

Lys Ile Asp Ser Val Ala Gly Ile Asn Tyr Gly Leu Val Ala Pro Pro
225                 230                 235                 240

Ala Thr Thr Ala Glu Thr Leu Asp Val Gln Met Lys Gly Glu Phe Tyr
                245                 250                 255

Ser Glu Asn His His Asn Pro Pro Pro Phe Ala Pro Pro Val Met Glu
                260                 265                 270

Phe Pro Ala Ala His Asp Arg Met Val Tyr Leu Gly Leu Ser Asp Tyr
        275                 280                 285

Phe Phe Asn Thr Ala Gly Leu Val Tyr Gln Glu Ala Gly Val Leu Lys
        290                 295                 300

Met Thr Leu Arg Asp Asp Met Ile Pro Lys Glu Ser Lys Phe Arg Leu
305                 310                 315                 320
```

290

```
Thr Thr Lys Phe Phe Gly Thr Phe Leu Pro Glu Val Ala Lys Lys Phe
            325                 330                 335

Pro Asn Met Lys Ile Gln Ile His Val Ser Ala Ser Thr Pro Pro His
            340                 345                 350

Leu Ser Val Gln Pro Thr Gly Leu Thr Phe Tyr Pro Ala Val Asp Val
            355                 360                 365

Gln Ala Phe Ala Val Leu Pro Asn Ser Ser Leu Ala Ser Leu Phe Leu
    370                 375                 380

Ile Gly Met His Thr Thr Gly Ser Met Glu Val Ser Ala Glu Ser Asn
385                 390                 395                 400

Arg Leu Val Gly Glu Leu Lys Leu Asp Arg Leu Leu Leu Glu Leu Lys
            405                 410                 415

His Ser Asn Ile Gly Pro Phe Pro Val Glu Leu Leu Gln Asp Ile Met
            420                 425                 430

Asn Tyr Ile Val Pro Ile Leu Val Leu Pro Arg Val Asn Glu Lys Leu
            435                 440                 445

Gln Lys Gly Phe Pro Leu Pro Thr Pro Ala Arg Val Gln Leu Tyr Asn
    450                 455                 460

Val Val Leu Gln Pro His Gln Asn Phe Leu Leu Phe Gly Ala Asp Val
465                 470                 475                 480

Val Tyr Lys


<210> 409
<211> 481
<212> PRT
<213> Homo sapiens

<400> 409
Met Gly Ala Leu Ala Arg Ala Leu Pro Ser Ile Leu Leu Ala Leu Leu
  1               5                  10                  15

Leu Thr Ser Thr Pro Glu Ala Leu Gly Ala Asn Pro Gly Leu Val Ala
            20                  25                  30

Arg Ile Thr Asp Lys Gly Leu Gln Tyr Ala Ala Gln Glu Gly Leu Leu
        35                  40                  45
```

291

Ala Leu Gln Ser Glu Leu Leu Arg Ile Thr Leu Pro Asp Phe Thr Gly
   50   55   60

Asp Leu Arg Ile Pro His Val Gly Arg Gly Arg Tyr Glu Phe His Ser
65   70   75   80

Leu Asn Ile His Glu Phe Gln Leu Pro Ser Ser Gln Ile Ser Met Val
             85   90   95

Pro Asn Val Gly Leu Lys Phe Ser Ile Ser Asn Ala Asn Ile Lys Ile
          100   105   110

Ser Gly Lys Trp Lys Ala Gln Lys Arg Phe Leu Lys Met Ser Gly Asn
        115   120   125

Phe Asp Leu Ser Ile Glu Gly Met Ser Ile Ser Ala Asp Leu Lys Leu
      130   135   140

Gly Ser Asn Pro Thr Ser Gly Lys Pro Thr Ile Thr Cys Ser Ser Cys
145   150   155   160

Ser Ser His Ile Asn Ser Val His Val His Ile Ser Lys Ser Lys Val
            165   170   175

Gly Trp Leu Ile Gln Leu Phe His Lys Lys Ile Glu Ser Ala Leu Arg
          180   185   190

Asn Lys Met Asn Ser Gln Val Cys Glu Lys Val Thr Asn Ser Val Ser
        195   200   205

Ser Lys Leu Gln Pro Tyr Phe Gln Thr Leu Pro Val Met Thr Lys Ile
        210   215   220

Asp Ser Val Ala Gly Ile Asn Tyr Gly Leu Val Ala Pro Pro Ala Thr
225   230   235   240

Thr Ala Glu Thr Leu Asp Val Gln Met Lys Gly Glu Phe Tyr Ser Glu
        245   250   255

Asn His His Asn Pro Pro Pro Phe Ala Pro Pro Val Met Glu Phe Pro
        260   265   270

Ala Ala His Asp Arg Met Val Tyr Leu Gly Leu Ser Asp Tyr Phe Phe
        275   280   285

Asn Thr Ala Gly Leu Val Tyr Gln Glu Ala Gly Val Leu Lys Met Thr
   290   295   300

```
Leu Arg Asp Asp Met Ile Pro Lys Glu Ser Lys Phe Arg Leu Thr Thr
305                 310             315                 320

Lys Phe Phe Gly Thr Phe Leu Pro Glu Val Ala Lys Lys Phe Pro Asn
                325             330                 335

Met Lys Ile Gln Ile His Val Ser Ala Ser Thr Pro Pro His Leu Ser
            340             345             350

Val Gln Pro Thr Gly Leu Thr Phe Tyr Pro Ala Val Asp Val Gln Ala
        355             360             365

Leu Ala Val Leu Pro Asn Ser Ser Leu Ala Ser Leu Phe Leu Ile Gly
    370             375             380

Met His Thr Thr Gly Ser Met Glu Val Ser Ala Glu Ser Asn Arg Leu
385             390             395                 400

Val Gly Glu Leu Lys Leu Asp Arg Leu Leu Leu Glu Leu Lys His Ser
            405             410             415

Asn Ile Gly Pro Phe Pro Val Glu Leu Leu Gln Asp Ile Met Asn Tyr
            420             425             430

Ile Val Pro Ile Leu Val Leu Pro Arg Val Asn Glu Lys Leu Gln Lys
        435             440             445

Gly Phe Pro Leu Pro Thr Pro Ala Arg Val Gln Leu Tyr Asn Val Val
    450             455             460

Leu Gln Pro His Gln Asn Phe Leu Leu Phe Gly Ala Asp Val Val Tyr
465             470             475                 480

Lys


<210> 410
<211> 383
<212> PRT
<213> Homo sapiens

<400> 410
Met Arg Ile Ala His Ala Ser Ser Arg Gly Asn Ile Ser Ile Phe Ser
 1               5               10                  15

Val Phe Leu Ile Pro Leu Ile Ala Tyr Ile Leu Ile Leu Pro Gly Val
```

293

Arg Arg Lys Arg Val Val Thr Thr Val Thr Tyr Val Leu Met Leu Ala
         35   40   45

Val Gly Gly Ala Leu Ile Ala Ser Leu Ile Tyr Pro Cys Trp Ala Ser
         50   55   60

Gly Ser Gln Met Ile Tyr Thr Gln Phe Arg Gly His Ser Asn Glu Arg
65   70   75   80

Ile Leu Ala Lys Ile Gly Val Glu Ile Gly Leu Gln Lys Val Asn Val
                 85   90   95

Thr Leu Lys Phe Glu Arg Leu Leu Ser Ser Asn Asp Val Leu Pro Gly
                100   105   110

Ser Asp Met Thr Glu Leu Tyr Tyr Asn Glu Gly Phe Asp Ile Ser Gly
                115   120   125

Ile Ser Ser Met Ala Glu Ala Leu His His Gly Leu Glu Asn Gly Leu
         130   135   140

Pro Tyr Pro Met Leu Ser Val Leu Glu Tyr Phe Ser Leu Asn Gln Asp
145   150   155   160

Ser Phe Asp Trp Gly Arg His Tyr Arg Val Ala Gly His Tyr Thr His
                165   170   175

Ala Ala Ile Trp Phe Ala Phe Ala Cys Trp Cys Leu Ser Val Val Leu
                180   185   190

Met Leu Phe Leu Pro His Asn Ala Tyr Lys Ser Ile Leu Ala Thr Gly
         195   200   205

Ile Ser Cys Leu Ile Ala Cys Leu Val Tyr Leu Leu Leu Ser Pro Cys
         210   215   220

Glu Leu Arg Ile Ala Phe Thr Gly Glu Asn Phe Glu Arg Val Asp Leu
225   230   235   240

Thr Ala Thr Phe Ser Phe Cys Phe Tyr Leu Ile Phe Ala Ile Gly Ile
                245   250   255

Leu Cys Val Leu Cys Gly Leu Gly Leu Gly Ile Cys Glu His Trp Arg
         260   265   270

Ile Tyr Thr Leu Ser Thr Phe Leu Asp Ala Ser Leu Asp Glu His Val

```
Gly Pro Lys Trp Lys Lys Leu Pro Thr Gly Gly Pro Ala Leu Gln Gly
    290                 295                 300

Val Gln Ile Gly Ala Tyr Gly Thr Asn Thr Thr Asn Ser Ser Arg Asp
305                 310                 315                 320

Lys Asn Asp Ile Ser Ser Asp Lys Thr Ala Gly Ser Ser Gly Phe Gln
                325                 330                 335

Ser Arg Thr Ser Thr Cys Gln Ser Ser Ala Ser Ser Ala Ser Leu Arg
            340                 345                 350

Ser Gln Ser Ser Ile Glu Thr Val His Asp Glu Ala Glu Leu Glu Arg
            355                 360                 365

Thr His Val His Phe Leu Gln Glu Pro Cys Ser Ser Ser Ser Thr
    370                 375                 380
```

<210> 411
<211> 399
<212> PRT
<213> Homo sapiens

<400> 411

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Met Lys Met Arg Phe Leu Gly Leu Val Val Cys Leu Val Leu Trp Pro
  1               5                  10                  15

Leu His Ser Glu Gly Ser Gly Gly Lys Leu Thr Ala Val Asp Pro Glu
                20                  25                  30

Thr Asn Met Asn Val Ser Glu Ile Ile Ser Tyr Trp Gly Phe Pro Ser
            35                  40                  45

Glu Glu Tyr Leu Val Glu Thr Glu Asp Gly Tyr Ile Leu Cys Leu Asn
        50                  55                  60

Arg Ile Pro His Gly Arg Lys Asn His Ser Asp Lys Gly Pro Lys Pro
 65                  70                  75                  80

Val Val Phe Leu Gln His Gly Leu Leu Ala Asp Ser Ser Asn Trp Val
                85                  90                  95

Thr Asn Leu Ala Asn Ser Ser Leu Gly Phe Ile Leu Ala Asp Ala Gly
                100                 105                 110
```

```
Phe Asp Val Trp Met Gly Asn Ser Arg Gly Asn Thr Trp Ser Arg Lys
        115                 120                 125

His Lys Thr Leu Ser Val Ser Gln Asp Glu Phe Trp Ala Phe Ser Tyr
        130                 135                 140

Asp Glu Met Ala Lys Tyr Asp Leu Pro Ala Ser Ile Asn Phe Ile Leu
145                 150                 155                 160

Asn Lys Thr Gly Gln Glu Gln Val Tyr Tyr Val Gly His Ser Gln Gly
                165                 170                 175

Thr Thr Ile Gly Phe Ile Ala Phe Ser Gln Ile Pro Glu Leu Ala Lys
                180                 185                 190

Arg Ile Lys Met Phe Phe Ala Leu Gly Pro Val Ala Ser Val Ala Phe
        195                 200                 205

Cys Thr Ser Pro Met Ala Lys Leu Gly Arg Leu Pro Asp His Leu Ile
        210                 215                 220

Lys Asp Leu Phe Gly Asp Lys Glu Phe Leu Pro Gln Ser Ala Phe Leu
225                 230                 235                 240

Lys Trp Leu Gly Thr His Val Cys Thr His Val Ile Leu Lys Glu Leu
                245                 250                 255

Cys Gly Asn Leu Cys Phe Leu Leu Cys Gly Phe Asn Glu Arg Asn Leu
                260                 265                 270

Asn Met Ser Arg Val Asp Val Tyr Thr Thr His Ser Pro Ala Gly Thr
        275                 280                 285

Ser Val Gln Asn Met Leu His Trp Ser Gln Ala Val Lys Phe Gln Lys
        290                 295                 300

Phe Gln Ala Phe Asp Trp Gly Ser Ser Ala Lys Asn Tyr Phe His Tyr
305                 310                 315                 320

Asn Gln Ser Tyr Pro Pro Thr Tyr Asn Val Lys Asp Met Leu Val Pro
                325                 330                 335

Thr Ala Val Trp Ser Gly Gly His Asp Trp Leu Ala Asp Val Tyr Asp
                340                 345                 350

Val Asn Ile Leu Leu Thr Gln Ile Thr Asn Leu Val Phe His Glu Ser
        355                 360                 365
```

296

Ile Pro Glu Trp Glu His Leu Asp Phe Ile Trp Gly Leu Asp Ala Pro
    370   375   380

Trp Arg Leu Tyr Asn Lys Ile Ile Asn Leu Met Arg Lys Tyr Gln
385   390   395

<210> 412
<211> 19
<212> PRT
<213> Homo sapiens

<400> 412
Met Ala Pro Pro Ala Ala Arg Leu Ala Leu Leu Ser Ala Ala Ala Leu
    1   5   10   15

Thr Leu Ala

<210> 413
<211> 451
<212> PRT
<213> Homo sapiens

<400> 413
Ala Arg Pro Ala Pro Gly Pro Arg Ser Gly Pro Glu Cys Phe Thr Ala
    1   5   10   15

Asn Gly Ala Asp Tyr Arg Gly Thr Gln Ser Trp Thr Ala Leu Gln Gly
                20   25   30

Gly Lys Pro Cys Leu Phe Trp Asn Glu Thr Phe Gln His Pro Tyr Asn
            35   40   45

Thr Leu Lys Tyr Pro Asn Gly Glu Gly Gly Leu Gly Glu His Asn Tyr
    50   55   60

Cys Arg Asn Pro Asp Gly Asp Val Ser Pro Trp Cys Tyr Val Ala Glu
    65   70   75   80

His Glu Asp Gly Val Tyr Trp Lys Tyr Cys Glu Ile Pro Ala Cys Gln
                85   90   95

Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His Gly Asn Pro Pro Pro
                100   105   110

Leu Thr Gly Thr Ser Lys Thr Ser Asn Lys Leu Thr Ile Gln Thr Cys

Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe Ala Gly Met Glu Ser
    130   135   140

Gly Tyr Ala Cys Phe Cys Gly Asn Asn Pro Asp Tyr Trp Lys His Gly
145   150   155   160

Glu Ala Ala Ser Thr Glu Cys Asn Ser Val Cys Phe Gly Asp His Thr
                   165   170   175

Gln Pro Cys Gly Gly Asp Gly Arg Ile Ile Leu Phe Asp Thr Leu Val
                   180   185   190

Gly Ala Cys Gly Gly Asn Tyr Ser Ala Met Ala Ala Val Val Tyr Ser
                   195   200   205

Pro Asp Phe Pro Asp Thr Tyr Ala Thr Gly Arg Val Cys Tyr Trp Thr
    210   215   220

Ile Arg Val Pro Gly Ala Ser Arg Ile His Phe Asn Phe Thr Leu Phe
225   230   235   240

Asp Ile Arg Asp Ser Ala Asp Met Val Glu Leu Leu Asp Gly Tyr Thr
                   245   250   255

His Arg Val Leu Val Arg Leu Ser Gly Arg Ser Arg Pro Pro Leu Ser
                   260   265   270

Phe Asn Val Ser Leu Asp Phe Val Ile Leu Tyr Phe Phe Ser Asp Arg
                   275   280   285

Ile Asn Gln Ala Gln Gly Phe Ala Val Leu Tyr Gln Ala Thr Lys Glu
    290   295   300

Glu Pro Pro Gln Glu Arg Pro Ala Val Asn Gln Thr Leu Ala Glu Val
305   310   315   320

Ile Thr Glu Gln Ala Asn Leu Ser Val Ser Ala Ala His Ser Ser Lys
                   325   330   335

Val Leu Tyr Val Ile Thr Pro Ser Pro Ser His Pro Pro Gln Thr Ala
                   340   345   350

Gln Val Ala Ile Pro Gly His Arg Gln Leu Gly Pro Thr Ala Thr Glu
                   355   360   365

Trp Lys Asp Gly Leu Cys Thr Ala Trp Arg Pro Ser Ser Ser Ser Gln

Ser Gln Gln Leu Ser Gln Arg Phe Phe Cys Met Ser His Leu Asn Leu
385   390   395   400

Ile Glu Ser Leu His Gln Glu Thr Leu Gly Thr Val Val Ser Leu Gly
                        405   410   415

Leu Leu Glu Ile Ser Gly Pro Phe Ser Met Asn Leu Pro Leu Gln Ser
                420   425   430

Pro Ser Leu Arg Arg Ser Ser Arg Val Arg Val Asn Lys Met Thr Ala
                435   440   445

Ile Pro Ser
        450

<210> 414
<211> 150
<212> PRT
<213> Homo sapiens

<400> 414
Lys Lys His Cys Trp Tyr Phe Glu Gly Leu Tyr Pro Thr Tyr Tyr Ile
    1   5   10   15

Cys Arg Ser Tyr Glu Asp Cys Cys Gly Ser Arg Cys Cys Val Arg Ala
                20   25   30

Leu Ser Ile Gln Arg Leu Trp Tyr Phe Trp Phe Leu Leu Met Met Gly
                35   40   45

Val Leu Phe Cys Cys Gly Ala Gly Phe Phe Ile Arg Arg Arg Met Tyr
        50   55   60

Pro Pro Pro Leu Ile Glu Glu Pro Thr Phe Asn Val Ser Tyr Thr Arg
65   70   75   80

Gln Pro Pro Asn Pro Ala Pro Gly Ala Gln Gln Met Gly Pro Pro Tyr
                85   90   95

Tyr Thr Asp Pro Gly Gly Pro Gly Met Asn Pro Val Gly Asn Thr Met
                100   105   110

Ala Met Ala Phe Gln Val Gln Pro Asn Ser Pro His Gly Gly Thr Thr
                115   120   125

Tyr Pro Pro Pro Pro Ser Tyr Cys Asn Thr Pro Pro Pro Pro Tyr Glu
    130   135   140

Gln Val Val Lys Asp Lys
145   150

<210> 415
<211> 2044
<212> DNA
<213> Homo sapiens

<400> 415
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aaattcttct tactttagaa ttagttgtta cattggcagg aaaaaataaa tgcagatgtt 120
ggaccatgtt ggaaaccttg tcaagacagt ggattgtctc acacagaatg gaaatgtggc 180
ttctgattct ggtggcgtat atgttccaga gaaatgtgaa ttcagtacat atgccaacta 240
aagctgtgga cccagaagca ttcatgaata ttagtgaaat catccaacat caaggctatc 300
cctgtgagga atatgaagtc gcaactgaag atgggtatat cctttctgtt aacaggattc 360
ctcgaggcct agtgcaacct aagaagacag gttccaggcc tgtggtgtta ctgcagcatg 420
gcctagttgg aggtgctagc aactggattt ccaacctgcc caacaatagc ctgggcttca 480
ttctggcaga tgctggtttt gacgtgtgga tggggaacag caggggaaac gcctggtctc 540
gaaaacacaa gacactctcc atagaccaag atgagttctg ggctttcagt tatgatgaga 600
tggctaggtt tgaccttcct gcagtgataa actttatttt gcagaaaacg ggccaggaaa 660
agatctatta tgtcggctat tcacagggca ccaccatggg ctttattgca ttttccacca 720
tgccagagct ggctcagaaa atcaaaatgt attttgcttt agcacccata gccactgtta 780
agcatgcaaa aagcccccggg accaaatttt tgttgctgcc agatatgatg atcaagggat 840
tgtttggcaa aaaagaattt ctgtatcaga ccagatttct cagacaactt gttatttacc 900
tttgtggcca ggtgattctt gatcagattt gtagtaatat catgttactt ctgggtggat 960
tcaacaccaa caatatgaac atgagccgag caagtgtata tgctgcccac actcttgctg 1020
gaacatctgt gcaaaatatt ctacactgga gccaggcagt gaattctggt gaactccggg 1080
catttgactg ggggagtgag accaaaaaatc tggaaaaatg caatcagcca actcctgtaa 1140
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tttcaaatcc agaagacgtg aaaatgctgc tctctgaggt gaccaacctc atctaccata 1260
agaatattcc tgaatgggct cacgtggatt tcatctgggg tttggatgct cctcaccgta 1320
tgtacaatga aatcatccat ctgatgcagc aggaggagac caacctttcc cagggacggt 1380
gtgaggccgt attgtgaagc atctgacact gacgatctta ggacaacctc ctgagggatg 1440
gggctaggac ccatgaaggc agaattacgg agagcagaga cctagtatac attttttcaga 1500
ttccctgcac ttggcactaa atccgacact tacatttaca ttttttttct gtaaattaaa 1560
gtacttatta ggtaaataga ggttttgtat gctattatat attctaccat cttgaagggt 1620
aggttttacc tgatagccag aaaaatatcta gacattctct atatcattca ggtaaatctc 1680
tttaaaacac ctattgtttt ttctataagc catatttttg gagcactaaa gtaaaatggc 1740
aaattgggac agatattgag gtctggagtc tgtggattat gttgacttt gacaaaataa 1800
gctagacatt ttcaccttgt tgccacagag acataacact acctcaggaa gctgagctgc 1860
tttaaggaca acaacaacaa aatcagtgtt acagtatgga tgaaatctat gttaagcatt 1920
ctcagaataa ggccaagttt tatagttgca tctcaggaa gaaaatttta taggatgttt 1980
atgagttctc caataaatgc attctgcatt acataaaaaa aaaaaaaaa aaaagggcgg 2040
ccgc   2044

<210> 416
<211> 1269
<212> DNA
<213> Homo sapiens

<400> 416
atgttggaaa ccttgtcaag acagtggatt gtctcacaca gaatggaaat gtggcttctg 60
attctggtgg cgtatatgtt ccagagaaat gtgaattcag tacatatgcc aactaaagct 120
gtggacccag aagcattcat gaatattagt gaaatcatcc aacatcaagg ctatccctgt 180
gaggaatatg aagtcgcaac tgaagatggg tatatccttt ctgttaacag gattcctcga 240
ggcctagtgc aacctaagaa gacaggttcc aggcctgtgg tgttactgca gcatggccta 300
gttggaggtg ctagcaactg gatttccaac ctgcccaaca atagcctggg cttcattctg 360
gcagatgctg gttttgacgt gtggatgggg aacagcaggg aaacgcctg tctcgaaaa 420
cacaagacac tctccataga ccaagatgag ttctgggctt cagttatga tgagatggct 480
aggtttgacc ttcctgcagt gataaacttt attttgcaga aaacgggcca ggaaaagatc 540
tattatgtcg gctattcaca gggcaccacc atgggcttta ttgcattttc caccatgcca 600
gagctggctc agaaaatcaa aatgtatttt gctttagcac ccatagccac tgttaagcat 660
gcaaaaagcc ccgggaccaa attttgttg ctgccagata tgatgatcaa gggattgttt 720
ggcaaaaaag aatttctgta tcagaccaga tttctcagac aacttgttat ttacctttgt 780
ggccaggtga ttcttgatca gatttgtagt aatatcatgt tacttctggg tggattcaac 840
accaacaata tgaacatgag ccgagcaagt gtatatgctg cccacactct tgctggaaca 900
tctgtgcaaa atattctaca ctggagccag gcagtgaatt ctggtgaact ccgggcattt 960
gactggggga gtgagaccaa aaatctggaa aaatgcaatc agccaactcc tgtaaggtac 1020
agagtcagag atatgacggt ccctacagca atgtggacag gaggtcagga ctggctttca 1080
aatccagaag acgtgaaaat gctgctctct gaggtgacca acctcatcta ccataagaat 1140
attcctgaat gggctcacgt ggattcatc tggggtttgg atgctcctca ccgtatgtac 1200
aatgaaatca tccatctgat gcagcaggag gagaccaacc tttcccaggg acggtgtgag 1260
gccgtattg   1269

<210> 417
<211> 423
<212> PRT
<213> Homo sapiens

<400> 417
Met Leu Glu Thr Leu Ser Arg Gln Trp Ile Val Ser His Arg Met Glu
1   5   10   15

Met Trp Leu Leu Ile Leu Val Ala Tyr Met Phe Gln Arg Asn Val Asn
            20   25   30

Ser Val His Met Pro Thr Lys Ala Val Asp Pro Glu Ala Phe Met Asn
        35   40   45

Ile Ser Glu Ile Ile Gln His Gln Gly Tyr Pro Cys Glu Glu Tyr Glu

301

Val Ala Thr Glu Asp Gly Tyr Ile Leu Ser Val Asn Arg Ile Pro Arg
65   70   75   80

Gly Leu Val Gln Pro Lys Lys Thr Gly Ser Arg Pro Val Val Leu Leu
                        85   90   95

Gln His Gly Leu Val Gly Gly Ala Ser Asn Trp Ile Ser Asn Leu Pro
                        100   105   110

Asn Asn Ser Leu Gly Phe Ile Leu Ala Asp Ala Gly Phe Asp Val Trp
                        115   120   125

Met Gly Asn Ser Arg Gly Asn Ala Trp Ser Arg Lys His Lys Thr Leu
                        130   135   140

Ser Ile Asp Gln Asp Glu Phe Trp Ala Phe Ser Tyr Asp Glu Met Ala
145   150   155   160

Arg Phe Asp Leu Pro Ala Val Ile Asn Phe Ile Leu Gln Lys Thr Gly
                        165   170   175

Gln Glu Lys Ile Tyr Tyr Val Gly Tyr Ser Gln Gly Thr Thr Met Gly
                        180   185   190

Phe Ile Ala Phe Ser Thr Met Pro Glu Leu Ala Gln Lys Ile Lys Met
                        195   200   205

Tyr Phe Ala Leu Ala Pro Ile Ala Thr Val Lys His Ala Lys Ser Pro
210   215   220

Gly Thr Lys Phe Leu Leu Leu Pro Asp Met Met Ile Lys Gly Leu Phe
225   230   235   240

Gly Lys Lys Glu Phe Leu Tyr Gln Thr Arg Phe Leu Arg Gln Leu Val
                        245   250   255

Ile Tyr Leu Cys Gly Gln Val Ile Leu Asp Gln Ile Cys Ser Asn Ile
                        260   265   270

Met Leu Leu Leu Gly Gly Phe Asn Thr Asn Asn Met Asn Met Ser Arg
                        275   280   285

Ala Ser Val Tyr Ala Ala His Thr Leu Ala Gly Thr Ser Val Gln Asn
                        290   295   300

Ile Leu His Trp Ser Gln Ala Val Asn Ser Gly Glu Leu Arg Ala Phe

302

Asp Trp Gly Ser Glu Thr Lys Asn Leu Glu Lys Cys Asn Gln Pro Thr
            325   330   335

Pro Val Arg Tyr Arg Val Arg Asp Met Thr Val Pro Thr Ala Met Trp
            340   345   350

Thr Gly Gly Gln Asp Trp Leu Ser Asn Pro Glu Asp Val Lys Met Leu
            355   360   365

Leu Ser Glu Val Thr Asn Leu Ile Tyr His Lys Asn Ile Pro Glu Trp
    370   375   380

Ala His Val Asp Phe Ile Trp Gly Leu Asp Ala Pro His Arg Met Tyr
385   390   395   400

Asn Glu Ile Ile His Leu Met Gln Gln Glu Glu Thr Asn Leu Ser Gln
            405   410   415

Gly Arg Cys Glu Ala Val Leu
            420

<210> 418
<211> 33
<212> PRT
<213> Homo sapiens

<400> 418
Met Leu Glu Thr Leu Ser Arg Gln Trp Ile Val Ser His Arg Met Glu
    1   5   10   15

Met Trp Leu Leu Ile Leu Val Ala Tyr Met Phe Gln Arg Asn Val Asn
                20   25   30

Ser

<210> 419
<211> 390
<212> PRT
<213> Homo sapiens

<400> 419
Val His Met Pro Thr Lys Ala Val Asp Pro Glu Ala Phe Met Asn Ile
    1   5   10   15

Ser Glu Ile Ile Gln His Gln Gly Tyr Pro Cys Glu Glu Tyr Glu Val
          20   25   30

Ala Thr Glu Asp Gly Tyr Ile Leu Ser Val Asn Arg Ile Pro Arg Gly
          35   40   45

Leu Val Gln Pro Lys Lys Thr Gly Ser Arg Pro Val Val Leu Leu Gln
          50   55   60

His Gly Leu Val Gly Gly Ala Ser Asn Trp Ile Ser Asn Leu Pro Asn
 65   70   75   80

Asn Ser Leu Gly Phe Ile Leu Ala Asp Ala Gly Phe Asp Val Trp Met
                85   90   95

Gly Asn Ser Arg Gly Asn Ala Trp Ser Arg Lys His Lys Thr Leu Ser
              100   105   110

Ile Asp Gln Asp Glu Phe Trp Ala Phe Ser Tyr Asp Glu Met Ala Arg
          115   120   125

Phe Asp Leu Pro Ala Val Ile Asn Phe Ile Leu Gln Lys Thr Gly Gln
          130   135   140

Glu Lys Ile Tyr Tyr Val Gly Tyr Ser Gln Gly Thr Thr Met Gly Phe
145   150   155   160

Ile Ala Phe Ser Thr Met Pro Glu Leu Ala Gln Lys Ile Lys Met Tyr
              165   170   175

Phe Ala Leu Ala Pro Ile Ala Thr Val Lys His Ala Lys Ser Pro Gly
              180   185   190

Thr Lys Phe Leu Leu Leu Pro Asp Met Met Ile Lys Gly Leu Phe Gly
          195   200   205

Lys Lys Glu Phe Leu Tyr Gln Thr Arg Phe Leu Arg Gln Leu Val Ile
          210   215   220

Tyr Leu Cys Gly Gln Val Ile Leu Asp Gln Ile Cys Ser Asn Ile Met
225   230   235   240

Leu Leu Leu Gly Gly Phe Asn Thr Asn Asn Met Asn Met Ser Arg Ala
              245   250   255

Ser Val Tyr Ala Ala His Thr Leu Ala Gly Thr Ser Val Gln Asn Ile
              260   265   270

304

Leu His Trp Ser Gln Ala Val Asn Ser Gly Glu Leu Arg Ala Phe Asp
        275   280   285

Trp Gly Ser Glu Thr Lys Asn Leu Glu Lys Cys Asn Gln Pro Thr Pro
    290   295   300

Val Arg Tyr Arg Val Arg Asp Met Thr Val Pro Thr Ala Met Trp Thr
305   310   315   320

Gly Gly Gln Asp Trp Leu Ser Asn Pro Glu Asp Val Lys Met Leu Leu
                325   330   335

Ser Glu Val Thr Asn Leu Ile Tyr His Lys Asn Ile Pro Glu Trp Ala
                340   345   350

His Val Asp Phe Ile Trp Gly Leu Asp Ala Pro His Arg Met Tyr Asn
        355   360   365

Glu Ile Ile His Leu Met Gln Gln Glu Glu Thr Asn Leu Ser Gln Gly
        370   375   380

Arg Cys Glu Ala Val Leu
385   390

<210> 420
<211> 221
<212> PRT
<213> Homo sapiens

<400> 420
Val His Met Pro Thr Lys Ala Val Asp Pro Glu Ala Phe Met Asn Ile
    1   5   10   15

Ser Glu Ile Ile Gln His Gln Gly Tyr Pro Cys Glu Glu Tyr Glu Val
                20   25   30

Ala Thr Glu Asp Gly Tyr Ile Leu Ser Val Asn Arg Ile Pro Arg Gly
            35   40   45

Leu Val Gln Pro Lys Lys Thr Gly Ser Arg Pro Val Val Leu Leu Gln
        50   55   60

His Gly Leu Val Gly Gly Ala Ser Asn Trp Ile Ser Asn Leu Pro Asn
    65   70   75   80

Asn Ser Leu Gly Phe Ile Leu Ala Asp Ala Gly Phe Asp Val Trp Met

Gly Asn Ser Arg Gly Asn Ala Trp Ser Arg Lys His Lys Thr Leu Ser
            100   105   110

Ile Asp Gln Asp Glu Phe Trp Ala Phe Ser Tyr Asp Glu Met Ala Arg
        115   120   125

Phe Asp Leu Pro Ala Val Ile Asn Phe Ile Leu Gln Lys Thr Gly Gln
    130   135   140

Glu Lys Ile Tyr Tyr Val Gly Tyr Ser Gln Gly Thr Thr Met Gly Phe
145   150   155   160

Ile Ala Phe Ser Thr Met Pro Glu Leu Ala Gln Lys Ile Lys Met Tyr
            165   170   175

Phe Ala Leu Ala Pro Ile Ala Thr Val Lys His Ala Lys Ser Pro Gly
            180   185   190

Thr Lys Phe Leu Leu Leu Pro Asp Met Met Ile Lys Gly Leu Phe Gly
            195   200   205

Lys Lys Glu Phe Leu Tyr Gln Thr Arg Phe Leu Arg Gln
    210   215   220

<210> 421
<211> 25
<212> PRT
<213> Homo sapiens

<400> 421
Leu Val Ile Tyr Leu Cys Gly Gln Val Ile Leu Asp Gln Ile Cys Ser
  1   5   10   15

Asn Ile Met Leu Leu Leu Gly Gly Phe
            20   25

<210> 422
<211> 144
<212> PRT
<213> Homo sapiens

<400> 422
Asn Thr Asn Asn Met Asn Met Ser Arg Ala Ser Val Tyr Ala Ala His
  1   5   10   15

Thr Leu Ala Gly Thr Ser Val Gln Asn Ile Leu His Trp Ser Gln Ala
              20   25   30

Val Asn Ser Gly Glu Leu Arg Ala Phe Asp Trp Gly Ser Glu Thr Lys
              35   40   45

Asn Leu Glu Lys Cys Asn Gln Pro Thr Pro Val Arg Tyr Arg Val Arg
        50   55   60

Asp Met Thr Val Pro Thr Ala Met Trp Thr Gly Gly Gln Asp Trp Leu
  65   70   75   80

Ser Asn Pro Glu Asp Val Lys Met Leu Leu Ser Glu Val Thr Asn Leu
                  85   90   95

Ile Tyr His Lys Asn Ile Pro Glu Trp Ala His Val Asp Phe Ile Trp
            100   105   110

Gly Leu Asp Ala Pro His Arg Met Tyr Asn Glu Ile Ile His Leu Met
            115   120   125

Gln Gln Glu Glu Thr Asn Leu Ser Gln Gly Arg Cys Glu Ala Val Leu
            130   135   140

<210> 423
<211> 2133
<212> DNA
<213> Homo sapiens

<400> 423
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307

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<210> 424
<211> 1029
<212> DNA
<213> Homo sapiens

<400> 424
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308

<210> 425
<211> 343
<212> PRT
<213> Homo sapiens

<400> 425
Met Ala Thr Leu Gly His Thr Phe Pro Phe Tyr Ala Gly Pro Lys Pro
 1   5   10   15

Thr Phe Pro Met Asp Thr Thr Leu Ala Ser Ile Ile Met Ile Phe Leu
                20   25   30

Thr Ala Leu Ala Thr Phe Ile Val Ile Leu Pro Gly Ile Arg Gly Lys
            35   40   45

Thr Arg Leu Phe Trp Leu Leu Arg Val Val Thr Ser Leu Phe Ile Gly
     50   55   60

Ala Ala Ile Leu Ala Val Asn Phe Ser Ser Glu Trp Ser Val Gly Gln
 65   70   75   80

Val Ser Thr Asn Thr Ser Tyr Lys Ala Phe Ser Ser Glu Trp Ile Ser
                85   90   95

Ala Asp Ile Gly Leu Gln Val Gly Leu Gly Gly Val Asn Ile Thr Leu
            100   105   110

Thr Gly Thr Pro Val Gln Gln Leu Asn Glu Thr Ile Asn Tyr Asn Glu
            115   120   125

Glu Phe Thr Trp Arg Leu Gly Glu Asn Tyr Ala Glu Glu Cys Ala Lys
     130   135   140

Ala Leu Glu Lys Gly Leu Pro Asp Pro Val Leu Tyr Leu Ala Glu Lys
145   150   155   160

Phe Thr Pro Arg Ser Pro Cys Gly Leu Tyr Arg Gln Tyr Arg Leu Ala
                165   170   175

Gly His Tyr Thr Ser Ala Met Leu Trp Val Ala Phe Leu Cys Trp Leu
            180   185   190

Leu Ala Asn Val Met Leu Ser Met Pro Val Leu Val Tyr Gly Gly Tyr
            195   200   205

Met Leu Leu Ala Thr Gly Ile Phe Gln Leu Leu Ala Leu Leu Phe Phe
    210   215   220

Ser Met Ala Thr Ser Leu Thr Ser Pro Cys Pro Leu His Leu Gly Ala
225   230   235   240

Ser Val Leu His Thr His His Gly Pro Ala Phe Trp Ile Thr Leu Thr
                245   250   255

Thr Gly Leu Leu Cys Val Leu Leu Gly Leu Ala Met Ala Val Ala His
                260   265   270

Arg Met Gln Pro His Arg Leu Lys Ala Phe Phe Asn Gln Ser Val Asp
            275   280   285

Glu Asp Pro Met Leu Glu Trp Ser Pro Glu Glu Gly Gly Leu Leu Ser
    290   295   300

Pro Arg Tyr Arg Ser Met Ala Asp Ser Pro Lys Ser Gln Asp Ile Pro
305   310   315   320

Leu Ser Glu Ala Ser Ser Thr Lys Ala Tyr Cys Lys Glu Ala His Pro
                325   330   335

Lys Asp Pro Asp Cys Ala Leu
            340

<210> 426
<211> 23
<212> PRT
<213> Homo sapiens

<400> 426
Met Ala Thr Leu Gly His Thr Phe Pro Phe Tyr Ala Gly Pro Lys Pro
  1   5   10   15

Thr Phe Pro Met Asp Thr Thr
                20

<210> 427
<211> 112
<212> PRT
<213> Homo sapiens

<400> 427
Asn Phe Ser Ser Glu Trp Ser Val Gly Gln Val Ser Thr Asn Thr Ser

```
            1                  5                  10                 15
         Tyr Lys Ala Phe Ser Ser Glu Trp Ile Ser Ala Asp Ile Gly Leu Gln
                     20                  25                  30

         Val Gly Leu Gly Gly Val Asn Ile Thr Leu Thr Gly Thr Pro Val Gln
                     35                  40                  45

         Gln Leu Asn Glu Thr Ile Asn Tyr Asn Glu Glu Phe Thr Trp Arg Leu
                50                  55                  60

         Gly Glu Asn Tyr Ala Glu Glu Cys Ala Lys Ala Leu Glu Lys Gly Leu
                65                  70                  75                  80

         Pro Asp Pro Val Leu Tyr Leu Ala Glu Lys Phe Thr Pro Arg Ser Pro
                         85                  90                  95

         Cys Gly Leu Tyr Arg Gln Tyr Arg Leu Ala Gly His Tyr Thr Ser Ala
                         100                 105                 110
```

<210> 428
<211> 22
<212> PRT
<213> Homo sapiens

<400> 428
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         Thr Ser Leu Thr Ser Pro Cys Pro Leu His Leu Gly Ala Ser Val Leu
            1                  5                  10                  15

         His Thr His His Gly Pro
                     20
```

<210> 429
<211> 19
<212> PRT
<213> Homo sapiens

<400> 429
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         Leu Ala Ser Ile Ile Met Ile Phe Leu Thr Ala Leu Ala Thr Phe Ile
            1                  5                  10                  15

         Val Ile Leu
```

```
<210> 430
<211> 20
<212> PRT
<213> Homo sapiens

<400> 430
Leu Phe Trp Leu Leu Arg Val Val Thr Ser Leu Phe Ile Gly Ala Ala
 1               5                   10                  15

Ile Leu Ala Val
            20


<210> 431
<211> 22
<212> PRT
<213> Homo sapiens

<400> 431
Met Leu Trp Val Ala Phe Leu Cys Trp Leu Leu Ala Asn Val Met Leu
 1               5                   10                  15

Ser Met Pro Val Leu Val
            20


<210> 432
<211> 17
<212> PRT
<213> Homo sapiens

<400> 432
Leu Ala Thr Gly Ile Phe Gln Leu Leu Ala Leu Leu Phe Phe Ser Met
 1               5                   10                  15

Ala


<210> 433
<211> 22
<212> PRT
<213> Homo sapiens

<400> 433
Ala Phe Trp Ile Thr Leu Thr Thr Gly Leu Leu Cys Val Leu Leu Gly
```

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              1                    5                            10                             15

         Leu Ala Met Ala Val Ala
                        20



         <210> 434
         <211> 8
         <212> PRT
         <213> Homo sapiens

         <400> 434
         Pro Gly Ile Arg Gly Lys Thr Arg
           1               5



         <210> 435
         <211> 6
         <212> PRT
         <213> Homo sapiens

         <400> 435
         Tyr Gly Gly Tyr Met Leu
           1               5



         <210> 436
         <211> 72
         <212> PRT
         <213> Homo sapiens

         <400> 436
         His Arg Met Gln Pro His Arg Leu Lys Ala Phe Phe Asn Gln Ser Val
           1               5                   10                  15


         Asp Glu Asp Pro Met Leu Glu Trp Ser Pro Glu Glu Gly Gly Leu Leu
                        20                  25                  30


         Ser Pro Arg Tyr Arg Ser Met Ala Asp Ser Pro Lys Ser Gln Asp Ile
                    35                  40                  45


         Pro Leu Ser Glu Ala Ser Ser Thr Lys Ala Tyr Cys Lys Glu Ala His
              50                  55                  60


         Pro Lys Asp Pro Asp Cys Ala Leu
           65                  70
```

313

<210> 437
<211> 4928
<212> DNA
<213> Mus sp.

<400> 437
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314

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<210> 438
<211> 1410
<212> DNA
<213> Mus sp.

315

<400> 438

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<210> 439
<211> 470
<212> PRT
<213> Mus sp.

<400> 439

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Thr Leu Ala Ala Arg Pro Ala Pro Gly Pro Arg Ser Gly Pro Glu Cys
            20                  25                  30

Phe Thr Ala Asn Gly Ala Asp Tyr Arg Gly Thr Gln Ser Trp Thr Ala
        35                  40                  45

Leu Gln Gly Gly Lys Pro Cys Leu Phe Trp Asn Glu Thr Phe Gln His
    50                  55                  60

Pro Tyr Asn Thr Leu Lys Tyr Pro Asn Gly Glu Gly Gly Leu Gly Glu
65                  70                  75                  80
```

316

His Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Ser Pro Trp Cys Tyr
                85   90   95

Val Ala Glu His Glu Asp Gly Val Tyr Trp Lys Tyr Cys Glu Ile Pro
            100   105   110

Ala Cys Gln Met Pro Gly Asn Leu Gly Cys Tyr Lys Asp His Gly Asn
        115   120   125

Pro Pro Pro Leu Thr Gly Thr Ser Lys Thr Ser Asn Lys Leu Thr Ile
        130   135   140

Gln Thr Cys Ile Ser Phe Cys Arg Ser Gln Arg Phe Lys Phe Ala Gly
145   150   155   160

Met Glu Ser Gly Tyr Ala Cys Phe Cys Gly Asn Asn Pro Asp Tyr Trp
                165   170   175

Lys His Gly Glu Ala Ala Ser Thr Glu Cys Asn Ser Val Cys Phe Gly
            180   185   190

Asp His Thr Gln Pro Cys Gly Gly Asp Gly Arg Ile Ile Leu Phe Asp
        195   200   205

Thr Leu Val Gly Ala Cys Gly Gly Asn Tyr Ser Ala Met Ala Ala Val
    210   215   220

Val Tyr Ser Pro Asp Phe Pro Asp Thr Tyr Ala Thr Gly Arg Val Cys
225   230   235   240

Tyr Trp Thr Ile Arg Val Pro Gly Ala Ser Arg Ile His Phe Asn Phe
                245   250   255

Thr Leu Phe Asp Ile Arg Asp Ser Ala Asp Met Val Glu Leu Leu Asp
            260   265   270

Gly Tyr Thr His Arg Val Leu Val Arg Leu Ser Gly Arg Ser Arg Pro
        275   280   285

Pro Leu Ser Phe Asn Val Ser Leu Asp Phe Val Ile Leu Tyr Phe Phe
    290   295   300

Ser Asp Arg Ile Asn Gln Ala Gln Gly Phe Ala Val Leu Tyr Gln Ala
305   310   315   320

Thr Lys Glu Glu Pro Pro Gln Glu Arg Pro Ala Val Asn Gln Thr Leu
            325   330   335

317

Ala Glu Val Ile Thr Glu Gln Ala Asn Leu Ser Val Ser Ala Ala His
            340   345   350

Ser Ser Lys Val Leu Tyr Val Ile Thr Pro Ser Pro Ser His Pro Pro
            355   360   365

Gln Thr Ala Gln Val Ala Ile Pro Gly His Arg Gln Leu Gly Pro Thr
        370   375   380

Ala Thr Glu Trp Lys Asp Gly Leu Cys Thr Ala Trp Arg Pro Ser Ser
385   390   395   400

Ser Ser Gln Ser Gln Gln Leu Ser Gln Arg Phe Phe Cys Met Ser His
            405   410   415

Leu Asn Leu Ile Glu Ser Leu His Gln Glu Thr Leu Gly Thr Val Val
            420   425   430

Ser Leu Gly Leu Leu Glu Ile Ser Gly Pro Phe Ser Met Asn Leu Pro
            435   440   445

Leu Gln Ser Pro Ser Leu Arg Arg Ser Ser Arg Val Arg Val Asn Lys
        450   455   460

Met Thr Ala Ile Pro Ser
465   470

<210> 440
<211> 760
<212> PRT
<213> Mus sp.

<400> 440
Met Ala Leu Pro Ser Leu Gly Gln Asp Ser Trp Ser Leu Leu Arg Val
  1   5   10   15

Phe Phe Phe Gln Leu Phe Leu Leu Pro Ser Leu Pro Pro Ala Ser Gly
            20   25   30

Thr Gly Gly Gln Gly Pro Met Pro Arg Val Lys Tyr His Ala Gly Asp
        35   40   45

Gly His Arg Ala Leu Ser Phe Phe Gln Gln Lys Gly Leu Arg Asp Phe
    50   55   60

Asp Thr Leu Leu Leu Ser Asp Asp Gly Asn Thr Leu Tyr Val Gly Ala
  65   70   75   80

318

Arg Glu Thr Val Leu Ala Leu Asn Ile Gln Asn Pro Gly Ile Pro Arg
                85   90   95

Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Glu Arg Lys Lys Thr Glu
                100   105   110

Cys Ala Phe Lys Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe Ile
                115   120   125

Arg Val Leu Val Ser Tyr Asn Ala Thr His Leu Tyr Ala Cys Gly Thr
    130   135   140

Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser Leu
145   150   155   160

Leu Leu Pro Ile Leu Ile Asp Lys Val Met Asp Gly Lys Gly Gln Ser
                165   170   175

Pro Leu Thr Leu Phe Thr Ser Thr Gln Ala Val Leu Val Asp Gly Met
                180   185   190

Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu
                195   200   205

Met Arg Thr Leu Gly Ser His Pro Val Leu Lys Thr Asp Ile Phe Leu
    210   215   220

Arg Trp Leu His Ala Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr
225   230   235   240

Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp Phe
                245   250   255

Phe Glu Glu Leu Tyr Ile Ser Arg Val Ala Gln Val Cys Lys Asn Asp
                260   265   270

Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu Lys
                275   280   285

Ala Gln Leu Leu Cys Ala Gln Pro Gly Gln Leu Pro Phe Asn Ile Ile
    290   295   300

Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Ser Val Ser Arg Ile
305   310   315   320

Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser Ser
                325   330   335

319

```
Ala Val Cys Ala Phe Ser Leu Thr Asp Ile Glu Arg Val Phe Lys Gly
            340                 345                 350

Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr Arg
            355                 360                 365

Gly Ser Glu Val Ser Pro Arg Pro Gly Ser Cys Ser Met Gly Pro Ser
        370                 375                 380

Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp Glu
385                 390                 395                 400

His Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr Thr
                405                 410                 415

Arg Leu Ala Val Glu Ser Ala Arg Gly Leu Asp Gly Ser Ser His Val
            420                 425                 430

Val Met Tyr Leu Gly Thr Ser Thr Gly Pro Leu His Lys Ala Val Val
            435                 440                 445

Pro Gln Asp Ser Ser Ala Tyr Leu Val Glu Glu Ile Gln Leu Ser Pro
        450                 455                 460

Asp Ser Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Ala Gln Gly Ala
465                 470                 475                 480

Val Phe Ala Gly Phe Ser Gly Gly Ile Trp Arg Val Pro Arg Ala Asn
            485                 490                 495

Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp Pro
            500                 505                 510

His Cys Ala Trp Asp Pro Glu Ser Arg Leu Cys Ser Leu Leu Ser Gly
            515                 520                 525

Ser Thr Lys Pro Trp Lys Gln Asp Met Glu Arg Gly Asn Pro Glu Trp
        530                 535                 540

Val Cys Thr Arg Gly Pro Met Ala Arg Ser Pro Arg Arg Gln Ser Pro
545                 550                 555                 560

Pro Gln Leu Ile Lys Glu Val Leu Thr Val Pro Asn Ser Ile Leu Glu
            565                 570                 575

Leu Arg Cys Pro His Leu Ser Ala Leu Ala Ser Tyr His Trp Ser His
            580                 585                 590

                            320
```

Gly Arg Ala Lys Ile Ser Glu Ala Ser Ala Thr Val Tyr Asn Gly Ser
        595   600   605

Leu Leu Leu Leu Pro Gln Asp Gly Val Gly Gly Leu Tyr Gln Cys Val
        610   615   620

Ala Thr Glu Asn Gly Tyr Ser Tyr Pro Val Val Ser Tyr Trp Val Asp
625   630   635   640

Ser Gln Asp Gln Pro Leu Ala Leu Asp Pro Glu Leu Ala Gly Val Pro
                645   650   655

Arg Glu Arg Val Gln Val Pro Leu Thr Arg Val Gly Gly Gly Ala Ser
            660   665   670

Met Ala Ala Gln Arg Ser Tyr Trp Pro His Phe Leu Ile Val Thr Val
            675   680   685

Leu Leu Ala Ile Val Leu Leu Gly Val Leu Thr Leu Leu Leu Ala Ser
        690   695   700

Pro Leu Gly Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Gly Met
705   710   715   720

Leu Pro Pro Arg Glu Lys Ala Pro Leu Ser Arg Asp Gln His Leu Gln
                725   730   735

Pro Ser Lys Asp His Arg Thr Ser Ala Ser Asp Val Asp Ala Asp Asn
                740   745   750

Asn His Leu Gly Ala Glu Val Ala
        755   760

<210> 441
<211> 3046
<212> PRT
<213> Mus sp.

<400> 441
Cys Thr Cys Gly Gly Ala Cys Gly Cys Cys Thr Gly Gly Gly Thr Thr
  1   5   10   15

Ala Gly Gly Gly Gly Thr Cys Thr Gly Thr Ala Cys Thr Gly Cys Thr
            20   25   30

Gly Gly Gly Gly Ala Ala Cys Cys Ala Thr Cys Thr Gly Gly Thr Gly

321

35   40   45

Ala Cys Cys Ala Thr Cys Thr Cys Ala Gly Gly Cys Thr Gly Ala Cys
     50   55   60

Cys Ala Thr Gly Gly Cys Cys Cys Thr Ala Cys Cys Ala Thr Cys Cys
     65   70   75   80

Cys Thr Gly Gly Gly Cys Cys Ala Gly Gly Ala Cys Thr Cys Ala Thr
                 85   90   95

Gly Gly Ala Gly Thr Cys Thr Cys Cys Thr Gly Cys Gly Thr Gly Thr
             100   105   110

Thr Thr Thr Thr Thr Thr Cys Thr Thr Cys Cys Ala Ala Cys Thr Cys
         115   120   125

Thr Thr Cys Cys Thr Gly Cys Thr Gly Cys Cys Ala Thr Cys Ala Cys
         130   135   140

Thr Gly Cys Cys Ala Cys Cys Thr Gly Cys Thr Thr Cys Thr Gly Gly
145   150   155   160

Gly Ala Cys Thr Gly Gly Thr Gly Gly Thr Cys Ala Gly Gly Gly Gly
                 165   170   175

Cys Cys Cys Ala Thr Gly Cys Cys Cys Ala Gly Ala Gly Thr Cys Ala
             180   185   190

Ala Ala Thr Ala Cys Cys Ala Thr Gly Cys Thr Gly Gly Ala Gly Ala
         195   200   205

Cys Gly Gly Gly Cys Ala Cys Ala Gly Gly Gly Cys Cys Cys Thr Cys
     210   215   220

Ala Gly Cys Thr Thr Cys Thr Thr Cys Cys Ala Ala Cys Ala Ala Ala
225   230   235   240

Ala Ala Gly Gly Cys Cys Thr Cys Cys Gly Ala Gly Ala Cys Thr Thr
                 245   250   255

Thr Gly Ala Cys Ala Cys Gly Cys Thr Gly Cys Thr Cys Cys Thr Gly
         260   265   270

Ala Gly Thr Gly Ala Cys Gly Ala Thr Gly Gly Cys Ala Ala Cys Ala
     275   280   285

Cys Thr Cys Thr Cys Thr Ala Thr Gly Thr Gly Gly Gly Gly Gly Cys

                              322

Thr Cys Gly Ala Gly Ala Gly Ala Cys Cys Gly Thr Cys Cys Thr Gly
305   310   315   320

Gly Cys Cys Thr Thr Gly Ala Ala Thr Ala Thr Cys Cys Ala Gly Ala
                325   330   335

Ala Cys Cys Cys Ala Gly Gly Ala Ala Thr Cys Cys Cys Ala Ala Gly
                340   345   350

Gly Cys Thr Ala Ala Ala Gly Ala Ala Cys Ala Thr Gly Ala Thr Ala
                355   360   365

Cys Cys Cys Thr Gly Gly Cys Cys Ala Gly Cys Cys Ala Gly Thr Gly
        370   375   380

Ala Gly Ala Gly Ala Ala Ala Ala Ala Ala Gly Ala Cys Cys Gly Ala
385   390   395   400

Ala Thr Gly Thr Gly Cys Cys Thr Thr Thr Ala Ala Gly Ala Ala Gly
                405   410   415

Ala Ala Gly Ala Gly Cys Ala Ala Thr Gly Ala Gly Ala Cys Ala Cys
                420   425   430

Ala Gly Thr Gly Thr Thr Thr Cys Ala Ala Cys Thr Thr Cys Ala Thr
        435   440   445

Thr Cys Gly Ala Gly Thr Cys Cys Thr Gly Gly Thr Cys Thr Cys Thr
        450   455   460

Thr Ala Cys Ala Ala Thr Gly Cys Thr Ala Cys Thr Cys Ala Cys Cys
465   470   475   480

Thr Cys Thr Ala Thr Gly Cys Cys Thr Gly Thr Gly Gly Gly Ala Cys
                485   490   495

Cys Thr Thr Thr Gly Cys Cys Thr Thr Cys Ala Gly Cys Cys Cys Thr
                500   505   510

Gly Cys Cys Thr Gly Thr Ala Cys Cys Thr Thr Cys Ala Thr Thr Gly
        515   520   525

Ala Ala Cys Thr Cys Cys Ala Ala Gly Ala Thr Thr Cys Cys Cys Thr
        530   535   540

Cys Cys Thr Gly Thr Thr Gly Cys Cys Cys Ala Thr Cys Thr Thr Gly

```
        545                    550                    555                    560

Ala Thr Ala Gly Ala Cys Ala Ala Gly Gly Thr Cys Ala Thr Gly Gly
                565                    570                    575

Ala Cys Gly Gly Gly Ala Ala Gly Gly Gly Cys Cys Ala Ala Ala Gly
                580                    585                    590

Cys Cys Cys Thr Thr Thr Gly Ala Cys Cys Cys Thr Gly Thr Thr Cys
        595                    600                    605

Ala Cys Ala Ala Gly Cys Ala Cys Ala Cys Ala Ala Gly Cys Thr Gly
        610                    615                    620

Thr Cys Thr Thr Gly Gly Thr Cys Gly Ala Thr Gly Gly Gly Ala Thr
625                    630                    635                    640

Gly Cys Thr Thr Thr Ala Thr Thr Cys Cys Gly Gly Cys Ala Cys Cys
                645                    650                    655

Ala Thr Gly Ala Ala Cys Ala Ala Cys Thr Thr Cys Cys Thr Gly Gly
                660                    665                    670

Gly Cys Ala Gly Cys Gly Ala Gly Cys Cys Cys Ala Thr Cys Cys Thr
                675                    680                    685

Gly Ala Thr Gly Cys Gly Gly Ala Cys Ala Cys Thr Gly Gly Gly Ala
        690                    695                    700

Thr Cys Cys Cys Ala Thr Cys Cys Thr Gly Thr Thr Cys Thr Cys Ala
705                    710                    715                    720

Ala Gly Ala Cys Thr Gly Ala Cys Ala Thr Cys Thr Thr Cys Thr Thr
                725                    730                    735

Ala Cys Gly Cys Thr Gly Gly Cys Thr Gly Cys Ala Cys Gly Cys Gly
                740                    745                    750

Gly Ala Thr Gly Cys Cys Thr Cys Cys Thr Thr Cys Gly Thr Gly Gly
                755                    760                    765

Cys Ala Gly Cys Cys Ala Thr Thr Cys Cys Ala Thr Cys Cys Ala Cys
        770                    775                    780

Cys Cys Ala Gly Gly Thr Cys Gly Thr Cys Thr Ala Thr Thr Thr Cys
785                    790                    795                    800

Thr Thr Cys Thr Thr Thr Gly Ala Gly Gly Ala Gly Ala Cys Ala Gly
```

324

Cys Cys Ala Gly Cys Gly Ala Gly Thr Thr Thr Gly Ala Cys Thr Thr
              820   825   830

Cys Thr Thr Thr Gly Ala Ala Gly Ala Gly Cys Thr Gly Thr Ala Thr
              835   840   845

Ala Thr Ala Thr Cys Cys Ala Gly Gly Gly Thr Gly Gly Cys Thr Cys
      850   855   860

Ala Ala Gly Thr Cys Thr Gly Cys Ala Ala Gly Ala Ala Cys Gly Ala
865   870   875   880

Cys Gly Thr Gly Gly Gly Cys Gly Gly Thr Gly Ala Ala Ala Ala Gly
                      885   890   895

Cys Thr Gly Cys Thr Gly Cys Ala Gly Ala Ala Gly Ala Ala Gly Thr
              900   905   910

Gly Gly Ala Cys Cys Ala Cys Cys Thr Thr Cys Cys Thr Cys Ala Ala
              915   920   925

Ala Gly Cys Cys Cys Ala Gly Thr Thr Gly Cys Thr Cys Thr Gly Cys
      930   935   940

Gly Cys Thr Cys Ala Gly Cys Cys Ala Gly Gly Gly Cys Ala Gly Cys
945   950   955   960

Thr Gly Cys Cys Ala Thr Thr Cys Ala Ala Cys Ala Thr Cys Ala Thr
                      965   970   975

Cys Cys Gly Cys Cys Ala Cys Gly Cys Gly Gly Thr Cys Cys Thr Gly
              980   985   990

Cys Thr Gly Cys Cys Cys Gly Cys Cys Gly Ala Thr Thr Cys Thr Cys
          995   1000   1005

Cys Cys Thr Cys Thr Gly Thr Thr Thr Cys Cys Cys Gly Cys Ala Thr
      1010   1015   1020

Cys Thr Ala Cys Gly Cys Ala Gly Thr Cys Thr Thr Thr Ala Cys Cys
1025   1030   1035   1040

Thr Cys Cys Cys Ala Gly Thr Gly Gly Cys Ala Gly Gly Thr Thr Gly
                  1045   1050   1055

Gly Cys Gly Gly Gly Ala Cys Cys Ala Gly Gly Ala Gly Cys Thr Cys

```
           1060              1065              1070

Ala Gly Cys Ala Gly Thr Cys Thr Gly Thr Gly Cys Cys Thr Thr Cys
     1075              1080              1085

Thr Cys Thr Cys Thr Cys Ala Cys Gly Gly Ala Cys Ala Thr Thr Gly
  1090              1095              1100

Ala Gly Cys Gly Ala Gly Thr Cys Thr Thr Thr Ala Ala Ala Gly Gly
1105              1110              1115              1120

Gly Ala Ala Gly Thr Ala Cys Ala Ala Gly Gly Ala Gly Cys Thr Gly
          1125              1130              1135

Ala Ala Cys Ala Ala Gly Gly Ala Gly Ala Cys Cys Thr Cys Cys Cys
        1140              1145              1150

Gly Cys Thr Gly Gly Ala Cys Cys Ala Cys Thr Thr Ala Cys Cys Gly
        1155              1160              1165

Gly Gly Gly Cys Thr Cys Ala Gly Ala Gly Gly Thr Cys Ala Gly Cys
     1170              1175              1180

Cys Cys Gly Ala Gly Gly Cys Cys Ala Gly Gly Cys Ala Gly Thr Thr
1185              1190              1195              1200

Gly Cys Thr Cys Cys Ala Thr Gly Gly Gly Cys Cys Cys Cys Thr Cys
          1205              1210              1215

Cys Thr Cys Thr Gly Ala Cys Ala Ala Ala Gly Cys Cys Thr Thr Gly
        1220              1225              1230

Ala Cys Cys Thr Thr Cys Ala Thr Gly Ala Ala Gly Gly Ala Cys Cys
        1235              1240              1245

Ala Thr Thr Thr Thr Cys Thr Gly Ala Thr Gly Gly Ala Thr Gly Ala
     1250              1255              1260

Gly Cys Ala Cys Gly Thr Gly Gly Thr Ala Gly Gly Ala Ala Cys Ala
1265              1270              1275              1280

Cys Cys Cys Cys Thr Gly Cys Thr Gly Gly Thr Gly Ala Ala Gly Thr
          1285              1290              1295

Cys Thr Gly Gly Thr Gly Thr Gly Gly Ala Gly Thr Ala Cys Ala Cys
        1300              1305              1310

Ala Cys Gly Gly Cys Thr Thr Gly Cys Thr Gly Thr Gly Gly Ala Gly
```

326

```
                1315                    1320                    1325

Thr Cys Ala Gly Cys Thr Cys Gly Gly Gly Gly Cys Cys Thr Thr Gly
      1330                    1335                    1340

Ala Thr Gly Gly Gly Ala Gly Cys Ala Gly Cys Cys Ala Thr Gly Thr
  1345                    1350                    1355                    1360

Gly Gly Thr Cys Ala Thr Gly Thr Ala Thr Cys Thr Gly Gly Gly Thr
            1365                    1370                    1375

Ala Cys Cys Thr Cys Cys Ala Cys Gly Gly Gly Thr Cys Cys Cys Cys
          1380                    1385                    1390

Thr Gly Cys Ala Cys Ala Ala Gly Gly Cys Thr Gly Thr Gly Gly Thr
          1395                    1400                    1405

Gly Cys Cys Thr Cys Ala Gly Gly Ala Cys Ala Gly Cys Ala Gly Thr
      1410                    1415                    1420

Gly Cys Thr Thr Ala Thr Cys Thr Cys Gly Thr Gly Gly Ala Gly Gly
  1425                    1430                    1435                    1440

Ala Gly Ala Thr Thr Cys Ala Gly Cys Thr Gly Ala Gly Cys Cys Cys
            1445                    1450                    1455

Thr Gly Ala Cys Thr Cys Thr Gly Ala Gly Cys Cys Thr Gly Thr Thr
          1460                    1465                    1470

Cys Gly Ala Ala Ala Cys Cys Thr Gly Cys Ala Gly Cys Thr Gly Gly
      1475                    1480                    1485

Cys Cys Cys Cys Cys Gly Cys Cys Cys Ala Gly Gly Gly Thr Gly Cys
      1490                    1495                    1500

Ala Gly Thr Gly Thr Thr Thr Gly Cys Ala Gly Gly Cys Thr Thr Cys
  1505                    1510                    1515                    1520

Thr Cys Thr Gly Gly Ala Gly Gly Cys Ala Thr Cys Thr Gly Gly Ala
            1525                    1530                    1535

Gly Ala Gly Thr Thr Cys Cys Cys Ala Gly Gly Gly Cys Cys Ala Ala
          1540                    1545                    1550

Thr Thr Gly Cys Ala Gly Thr Gly Thr Cys Thr Ala Cys Gly Ala Gly
      1555                    1560                    1565

Ala Gly Cys Thr Gly Thr Gly Thr Gly Gly Ala Cys Thr Gly Thr Gly

                                327
```

Thr Gly Cys Thr Thr Gly Cys Cys Ala Gly Gly Gly Ala Cys Cys Cys
1585   1590   1595   1600

Thr Cys Ala Cys Thr Gly Thr Gly Cys Cys Thr Gly Gly Gly Ala Cys
                1605   1610   1615

Cys Cys Thr Gly Ala Ala Thr Cys Ala Ala Gly Ala Cys Thr Cys Thr
              1620   1625   1630

Gly Cys Ala Gly Cys Cys Thr Thr Cys Thr Gly Thr Cys Thr Gly Gly
          1635   1640   1645

Cys Thr Cys Thr Ala Cys Cys Ala Ala Gly Cys Cys Thr Thr Gly Gly
        1650   1655   1660

Ala Ala Gly Cys Ala Gly Gly Ala Cys Ala Thr Gly Gly Ala Ala Cys
1665   1670   1675   1680

Gly Cys Gly Gly Cys Ala Ala Cys Cys Cys Gly Gly Ala Gly Thr Gly
                1685   1690   1695

Gly Gly Thr Ala Thr Gly Cys Ala Cys Cys Cys Gly Thr Gly Gly Cys
                1700   1705   1710

Cys Cys Cys Ala Thr Gly Gly Cys Cys Ala Gly Gly Ala Gly Cys Cys
          1715   1720   1725

Cys Cys Cys Gly Gly Cys Gly Thr Cys Ala Gly Ala Gly Cys Cys Cys
        1730   1735   1740

Cys Cys Cys Thr Cys Ala Ala Cys Thr Ala Ala Thr Ala Ala Ala
1745   1750   1755   1760

Gly Ala Ala Gly Thr Cys Cys Thr Gly Ala Cys Ala Gly Thr Cys Cys
              1765   1770   1775

Cys Cys Ala Ala Cys Thr Cys Cys Ala Thr Cys Cys Thr Gly Gly Ala
            1780   1785   1790

Gly Cys Thr Gly Cys Gly Cys Thr Gly Cys Cys Cys Cys Cys Ala Cys
          1795   1800   1805

Cys Thr Gly Thr Cys Ala Gly Cys Ala Cys Thr Gly Gly Cys Cys Thr
        1810   1815   1820

Cys Thr Thr Ala Cys Cys Ala Cys Thr Gly Gly Ala Gly Thr Cys Ala

```
      1825                    1830                    1835                    1840
```

Thr Gly Gly Cys Cys Gly Ala Gly Cys Cys Ala Ala Ala Ala Thr Cys

```
                1845                    1850                    1855
```

Thr Cys Ala Gly Ala Ala Gly Cys Cys Thr Cys Thr Gly Cys Thr Ala

```
          1860                    1865                    1870
```

Cys Cys Gly Thr Cys Thr Ala Cys Ala Ala Thr Gly Gly Cys Thr Cys

```
      1875                    1880                    1885
```

Cys Cys Thr Cys Thr Thr Gly Cys Thr Gly Cys Thr Gly Cys Cys Gly

```
    1890                    1895                    1900
```

Cys Ala Gly Gly Ala Thr Gly Gly Thr Gly Thr Cys Gly Gly Gly Gly

```
  1905                    1910                    1915                    1920
```

Gly Cys Cys Thr Cys Thr Ala Cys Cys Ala Gly Thr Gly Thr Gly Thr

```
                1925                    1930                    1935
```

Gly Gly Cys Gly Ala Cys Thr Gly Ala Gly Ala Ala Cys Gly Gly Cys

```
          1940                    1945                    1950
```

Thr Ala Cys Thr Cys Ala Thr Ala Cys Cys Cys Thr Gly Thr Gly Gly

```
          1955                    1960                    1965
```

Thr Cys Thr Cys Cys Thr Ala Thr Thr Gly Gly Gly Thr Ala Gly Ala

```
    1970                    1975                    1980
```

Cys Ala Gly Cys Cys Ala Gly Gly Ala Cys Cys Ala Gly Cys Cys Cys

```
  1985                    1990                    1995                    2000
```

Cys Thr Gly Gly Cys Gly Cys Thr Gly Gly Ala Cys Cys Cys Thr Gly

```
                2005                    2010                    2015
```

Ala Gly Cys Thr Gly Gly Cys Gly Gly Gly Cys Gly Thr Thr Cys Cys

```
          2020                    2025                    2030
```

Cys Cys Gly Thr Gly Ala Gly Cys Gly Thr Gly Thr Gly Cys Ala Gly

```
      2035                    2040                    2045
```

Gly Thr Cys Cys Cys Gly Cys Thr Gly Ala Cys Cys Ala Gly Gly Gly

```
    2050                    2055                    2060
```

Thr Cys Gly Gly Ala Gly Gly Cys Gly Gly Ala Gly Cys Thr Thr Cys

```
  2065                    2070                    2075                    2080
```

Cys Ala Thr Gly Gly Cys Thr Gly Cys Cys Cys Ala Gly Cys Gly Gly

Thr Cys Cys Thr Ala Cys Thr Gly Gly Cys Cys Cys Cys Ala Thr Thr
            2100   2105   2110

Thr Thr Cys Thr Cys Ala Thr Cys Gly Thr Thr Ala Cys Cys Gly Thr
        2115   2120   2125

Cys Cys Thr Cys Cys Thr Gly Gly Cys Cys Ala Thr Cys Gly Thr Gly
    2130   2135   2140

Cys Thr Cys Cys Thr Gly Gly Gly Ala Gly Thr Gly Cys Thr Cys Ala
2145   2150   2155   2160

Cys Thr Cys Thr Cys Cys Thr Cys Cys Thr Cys Gly Cys Thr Thr Cys
            2165   2170   2175

Cys Cys Cys Ala Cys Thr Gly Gly Gly Gly Gly Cys Gly Cys Thr Gly
            2180   2185   2190

Cys Gly Gly Gly Cys Thr Cys Gly Gly Gly Gly Thr Ala Ala Gly Gly
        2195   2200   2205

Thr Thr Cys Ala Gly Gly Gly Cys Thr Gly Thr Gly Gly Gly Ala Thr
    2210   2215   2220

Gly Cys Thr Gly Cys Cys Cys Cys Cys Cys Ala Gly Gly Gly Ala Ala
2225   2230   2235   2240

Ala Ala Gly Gly Cys Thr Cys Cys Ala Cys Thr Gly Ala Gly Cys Ala
            2245   2250   2255

Gly Gly Gly Ala Cys Cys Ala Gly Cys Ala Cys Cys Thr Cys Cys Ala
            2260   2265   2270

Gly Cys Cys Cys Thr Cys Cys Ala Ala Gly Gly Ala Cys Cys Ala Cys
        2275   2280   2285

Ala Gly Gly Ala Cys Cys Thr Cys Thr Gly Cys Cys Ala Gly Thr Gly
    2290   2295   2300

Ala Cys Gly Thr Ala Gly Ala Thr Gly Cys Cys Gly Ala Cys Ala Ala
2305   2310   2315   2320

Cys Ala Ala Cys Cys Ala Thr Cys Thr Gly Gly Gly Cys Gly Cys Cys
            2325   2330   2335

Gly Ala Ala Gly Thr Gly Gly Cys Thr Thr Ala Ala Ala Cys Ala Gly

Gly Gly Ala Cys Ala Cys Ala Gly Ala Thr Cys Cys Gly Cys Ala Gly
    2355   2360   2365

Cys Thr Gly Ala Gly Cys Ala Gly Ala Gly Cys Ala Ala Gly Cys Cys
    2370   2375   2380

Ala Cys Thr Gly Gly Cys Cys Thr Thr Gly Thr Thr Gly Gly Cys Thr
2385   2390   2395   2400

Ala Thr Gly Cys Cys Ala Gly Gly Cys Ala Cys Ala Gly Thr Gly Cys
            2405   2410   2415

Cys Ala Cys Thr Cys Thr Gly Ala Cys Cys Ala Gly Gly Gly Thr Ala
            2420   2425   2430

Gly Gly Ala Gly Gly Cys Thr Cys Thr Cys Cys Thr Gly Cys Thr Ala
            2435   2440   2445

Ala Cys Gly Thr Gly Thr Gly Thr Cys Ala Cys Cys Thr Ala Cys Ala
    2450   2455   2460

Gly Cys Ala Cys Cys Cys Ala Gly Thr Ala Gly Gly Thr Cys Cys Thr
2465   2470   2475   2480

Cys Cys Cys Cys Thr Gly Thr Gly Gly Gly Ala Cys Thr Cys Thr Cys
            2485   2490   2495

Thr Thr Cys Thr Gly Cys Ala Ala Gly Cys Ala Cys Ala Thr Thr Gly
            2500   2505   2510

Gly Gly Cys Thr Gly Thr Cys Thr Cys Cys Ala Thr Ala Cys Cys Thr
    2515   2520   2525

Gly Thr Ala Cys Thr Thr Gly Thr Gly Cys Thr Gly Thr Gly Ala Cys
    2530   2535   2540

Ala Gly Gly Ala Ala Gly Ala Gly Cys Cys Ala Gly Ala Cys Ala Gly
2545   2550   2555   2560

Gly Thr Thr Thr Cys Thr Thr Thr Gly Ala Thr Thr Thr Thr Gly Ala
            2565   2570   2575

Thr Thr Gly Ala Cys Cys Cys Ala Ala Gly Ala Gly Cys Cys Cys Thr
            2580   2585   2590

Gly Cys Cys Thr Gly Thr Ala Ala Cys Ala Ala Ala Cys Gly Thr Gly

Cys Thr Cys Cys Ala Gly Gly Ala Gly Ala Cys Cys Ala Thr Gly Ala
2610   2615   2620

Ala Ala Gly Gly Thr Gly Thr Gly Gly Cys Thr Gly Thr Cys Thr Gly
2625   2630   2635   2640

Gly Gly Ala Thr Thr Cys Thr Gly Thr Gly Gly Thr Gly Ala Cys Ala
2645   2650   2655

Ala Ala Cys Cys Thr Ala Ala Gly Cys Ala Thr Cys Cys Gly Ala Gly
2660   2665   2670

Cys Ala Ala Gly Cys Thr Gly Gly Gly Gly Cys Thr Ala Thr Thr Cys
2675   2680   2685

Cys Thr Gly Cys Ala Ala Ala Cys Thr Cys Cys Ala Thr Cys Cys Thr
2690   2695   2700

Gly Ala Ala Cys Gly Cys Thr Gly Thr Cys Ala Cys Thr Cys Thr Ala
2705   2710   2715   2720

Gly Ala Ala Gly Cys Ala Gly Cys Thr Gly Cys Thr Gly Cys Thr Thr
2725   2730   2735

Thr Gly Ala Ala Cys Ala Cys Cys Ala Gly Cys Cys Cys Ala Cys Cys
2740   2745   2750

Cys Thr Cys Cys Thr Thr Cys Cys Cys Ala Ala Gly Ala Gly Thr Cys
2755   2760   2765

Thr Cys Thr Ala Thr Gly Gly Ala Gly Thr Thr Gly Gly Cys Cys Cys
2770   2775   2780

Cys Thr Thr Gly Thr Gly Thr Thr Thr Cys Cys Thr Thr Thr Ala Cys
2785   2790   2795   2800

Cys Ala Gly Thr Cys Gly Gly Gly Cys Cys Ala Thr Ala Cys Thr Gly
2805   2810   2815

Thr Thr Thr Gly Gly Gly Ala Ala Gly Thr Cys Ala Thr Cys Thr Cys
2820   2825   2830

Thr Gly Ala Ala Gly Thr Cys Thr Ala Ala Cys Cys Ala Cys Cys Thr
2835   2840   2845

Thr Cys Cys Thr Thr Cys Thr Thr Gly Gly Thr Thr Cys Ala Gly Thr

332

Thr Thr Gly Gly Ala Cys Ala Gly Ala Thr Thr Gly Thr Thr Ala Thr
2865   2870   2875   2880

Thr Ala Thr Thr Gly Thr Cys Thr Cys Thr Gly Cys Cys Cys Thr Gly
               2885   2890   2895

Gly Cys Thr Ala Gly Ala Ala Thr Gly Gly Gly Gly Gly Cys Ala Thr
               2900   2905   2910

Ala Ala Thr Cys Thr Gly Ala Gly Cys Cys Thr Thr Gly Thr Thr Cys
               2915   2920   2925

Cys Cys Thr Thr Gly Thr Cys Cys Ala Gly Thr Gly Thr Gly Gly Cys
        2930   2935   2940

Thr Gly Ala Cys Cys Cys Thr Thr Gly Ala Cys Cys Thr Cys Thr Thr
2945   2950   2955   2960

Cys Cys Thr Thr Cys Cys Thr Cys Cys Thr Cys Cys Cys Thr Thr Thr
               2965   2970   2975

Gly Thr Thr Thr Thr Gly Gly Gly Ala Thr Thr Cys Ala Gly Ala Ala
               2980   2985   2990

Ala Ala Cys Thr Gly Cys Thr Thr Gly Thr Cys Ala Cys Ala Gly Ala
               2995   3000   3005

Cys Ala Ala Thr Thr Thr Ala Thr Thr Thr Thr Thr Thr Ala Thr Thr
        3010   3015   3020

Ala Ala Ala Ala Ala Ala Gly Ala Thr Ala Thr Ala Ala Gly Cys Thr
3025   3030   3035   3040

Thr Thr Ala Ala Ala Gly
               3045

<210> 442
<400> 442
000

<210> 443
<400> 443
000

<210> 444
<400> 444
000

<210> 445
<211> 398
<212> PRT
<213> Homo sapiens

<400> 445
Met Trp Leu Leu Leu Thr Met Ala Ser Leu Ile Ser Val Leu Gly Thr
  1   5   10   15

Thr His Gly Leu Phe Gly Lys Leu His Pro Gly Ser Pro Glu Val Thr
              20   25   30

Met Asn Ile Ser Gln Met Ile Thr Tyr Trp Gly Tyr Pro Asn Glu Glu
          35   40   45

Tyr Glu Val Val Thr Glu Asp Gly Tyr Ile Leu Glu Val Asn Arg Ile
      50   55   60

Pro Tyr Gly Lys Lys Asn Ser Gly Asn Thr Gly Gln Arg Pro Val Val
  65   70   75   80

Phe Leu Gln His Gly Leu Leu Ala Ser Ala Thr Asn Trp Ile Ser Asn
                  85   90   95

Leu Pro Asn Asn Ser Leu Ala Phe Ile Leu Ala Asp Ala Gly Tyr Asp
              100   105   110

Val Trp Leu Gly Asn Ser Arg Gly Asn Thr Trp Ala Arg Arg Asn Leu
          115   120   125

Tyr Tyr Ser Pro Asp Ser Val Glu Phe Trp Ala Phe Ser Phe Asp Glu
      130   135   140

Met Ala Lys Tyr Asp Leu Pro Ala Thr Ile Asp Phe Ile Val Lys Lys
145   150   155   160

Thr Gly Gln Lys Gln Leu His Tyr Val Gly His Ser Gln Gly Thr Thr
                  165   170   175

Ile Gly Phe Ile Ala Phe Ser Thr Asn Pro Ser Leu Ala Lys Arg Ile
              180   185   190

334

Lys Thr Phe Tyr Ala Leu Ala Pro Val Ala Thr Val Lys Tyr Thr Lys
        195   200   205

Ser Leu Ile Asn Lys Leu Arg Phe Val Pro Gln Ser Leu Phe Lys Phe
        210   215   220

Ile Phe Gly Asp Lys Ile Phe Tyr Pro His Asn Phe Phe Asp Gln Phe
225   230   235   240

Leu Ala Thr Glu Val Cys Ser Arg Glu Met Leu Asn Leu Leu Cys Ser
                245   250   255

Asn Ala Leu Phe Ile Ile Cys Gly Phe Asp Ser Lys Asn Phe Asn Thr
                260   265   270

Ser Arg Leu Asp Val Tyr Leu Ser His Asn Pro Ala Gly Thr Ser Val
        275   280   285

Gln Asn Met Phe His Trp Thr Gln Ala Val Lys Ser Gly Lys Phe Gln
        290   295   300

Ala Tyr Asp Trp Gly Ser Pro Val Gln Asn Arg Met His Tyr Asp Gln
305   310   315   320

Ser Gln Pro Pro Tyr Tyr Asn Val Thr Ala Met Asn Val Pro Ile Ala
                325   330   335

Val Trp Asn Gly Gly Lys Asp Leu Leu Ala Asp Pro Gln Asp Val Gly
                340   345   350

Leu Leu Leu Pro Lys Leu Pro Asn Leu Ile Tyr His Lys Glu Ile Pro
        355   360   365

Phe Tyr Asn His Leu Asp Phe Ile Trp Ala Met Asp Ala Pro Gln Glu
        370   375   380

Val Tyr Asn Asp Ile Val Ser Met Ile Ser Glu Asp Lys Lys
385   390   395

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Met Ala Leu Pro Ser Leu Gly Gln Asp Ser Trp Ser Leu Leu Arg Val
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335

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Phe Phe Phe Gln Leu Phe Leu Leu Pro Ser Leu Pro Pro Ala Ser Gly
          20                25                30

Thr Gly Gly Gln Gly Pro Met Pro Arg Val Lys Tyr His Ala Gly Asp
          35                40                45

Gly His Arg Ala Leu Ser Phe Phe Gln Gln Lys Gly Leu Arg Asp Phe
     50                55                60

Asp Thr Leu Leu Leu Ser Asp Asp Gly Asn Thr Leu Tyr Val Gly Ala
65                70                75                80

Arg Glu Thr Val Leu Ala Leu Asn Ile Gln Asn Pro Gly Ile Pro Arg
               85                90                95

Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Glu Arg Lys Lys Thr Glu
          100               105               110

Cys Ala Phe Lys Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe Ile
          115               120               125

Arg Val Leu Val Ser Tyr Asn Ala Thr His Leu Tyr Ala Cys Gly Thr
     130               135               140

Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser Leu
145               150               155               160

Leu Leu Pro Ile Leu Ile Asp Lys Val Met Asp Gly Lys Gly Gln Ser
               165               170               175

Pro Leu Thr Leu Phe Thr Ser Thr Gln Ala Val Leu Val Asp Gly Met
          180               185               190

Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu
          195               200               205

Met Arg Thr Leu Gly Ser His Pro Val Leu Lys Thr Asp Ile Phe Leu
     210               215               220

Arg Trp Leu His Ala Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr
225               230               235               240

Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp Phe
               245               250               255

Phe Glu Glu Leu Tyr Ile Ser Arg Val Ala Gln Val Cys Lys Asn Asp
          260               265               270
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336

Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu Lys
    275   280   285

Ala Gln Leu Leu Cys Ala Gln Pro Gly Gln Leu Pro Phe Asn Ile Ile
    290   295   300

Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Ser Val Ser Arg Ile
305   310   315   320

Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser Ser
           325   330   335

Ala Val Cys Ala Phe Ser Leu Thr Asp Ile Glu Arg Val Phe Lys Gly
           340   345   350

Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr Arg
           355   360   365

Gly Ser Glu Val Ser Pro Arg Pro Gly Ser Cys Ser Met Gly Pro Ser
    370   375   380

Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp Glu
385   390   395   400

His Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr Thr
           405   410   415

Arg Leu Ala Val Glu Ser Ala Arg Gly Leu Asp Gly Ser Ser His Val
           420   425   430

Val Met Tyr Leu Gly Thr Ser Thr Gly Pro Leu His Lys Ala Val Val
           435   440   445

Pro Gln Asp Ser Ser Ala Tyr Leu Val Glu Glu Ile Gln Leu Ser Pro
    450   455   460

Asp Ser Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Ala Gln Gly Ala
465   470   475   480

Val Phe Ala Gly Phe Ser Gly Gly Ile Trp Arg Val Pro Arg Ala Asn
           485   490   495

Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp Pro
           500   505   510

His Cys Ala Trp Asp Pro Glu Ser Arg Leu Cys Ser Leu Leu Ser Gly
           515   520   525

Ser Thr Lys Pro Trp Lys Gln Asp Met Glu Arg Gly Asn Pro Glu Trp
    530   535   540

Val Cys Thr Arg Gly Pro Met Ala Arg Ser Pro Arg Arg Gln Ser Pro
545   550   555   560

Pro Gln Leu Ile Lys Glu Val Leu Thr Val Pro Asn Ser Ile Leu Glu
                565   570   575

Leu Arg Cys Pro His Leu Ser Ala Leu Ala Ser Tyr His Trp Ser His
            580   585   590

Gly Arg Ala Lys Ile Ser Glu Ala Ser Ala Thr Val Tyr Asn Gly Ser
        595   600   605

Leu Leu Leu Leu Pro Gln Asp Gly Val Gly Gly Leu Tyr Gln Cys Val
    610   615   620

Ala Thr Glu Asn Gly Tyr Ser Tyr Pro Val Val Ser Tyr Trp Val Asp
625   630   635   640

Ser Gln Asp Gln Pro Leu Ala Leu Asp Pro Glu Leu Ala Gly Val Pro
            645   650   655

Arg Glu Arg Val Gln Val Pro Leu Thr Arg Val Gly Gly Gly Ala Ser
        660   665   670

Met Ala Ala Gln Arg Ser Tyr Trp Pro His Phe Leu Ile Val Thr Val
        675   680   685

Leu Leu Ala Ile Val Leu Leu Gly Val Leu Thr Leu Leu Leu Ala Ser
    690   695   700

Pro Leu Gly Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Gly Met
705   710   715   720

Leu Pro Pro Arg Glu Lys Ala Pro Leu Ser Arg Asp Gln His Leu Gln
            725   730   735

Pro Ser Lys Asp His Arg Thr Ser Ala Ser Asp Val Asp Ala Asp Asn
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Asn His Leu Gly Ala Glu Val Ala
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339

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Gly Val His Arg Cys Glu Gly Arg Val Glu Val Lys His Gln Gly Glu
                35                  40                  45

Trp Gly Thr Val Asp Gly Tyr Arg Trp Thr Leu Lys Asp Ala Ser Val
        50                  55                  60

Val Cys Arg Gln Leu Gly Cys Gly Ala Ala Ile Gly Phe Pro Gly Gly
 65                  70                  75                  80

Ala Tyr Phe Gly Pro Gly Leu Gly Pro Ile Trp Leu Leu Tyr Thr Ser
                85                  90                  95

Cys Glu Gly Thr Glu Ser Thr Val Ser Asp Cys Glu His Ser Asn Ile
               100                 105                 110

Lys Asp Tyr Arg Asn Asp Gly Tyr Asn His Gly Arg Asp Ala Gly Val
            115                 120                 125

Val Cys Ser Gly Phe Val Arg Leu Ala Gly Gly Asp Gly Pro Cys Ser
        130                 135                 140

Gly Arg Val Glu Val His Ser Gly Glu Ala Trp Ile Pro Val Ser Asp
145                 150                 155                 160

Gly Asn Phe Thr Leu Ala Thr Ala Gln Ile Ile Cys Ala Glu Leu Gly
                165                 170                 175
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340

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Cys Gly Lys Ala Val Ser Val Leu Gly His Glu Leu Phe Arg Glu Ser
        180                 185                 190

Ser Ala Gln Val Trp Ala Glu Glu Phe Arg Cys Glu Gly Glu Glu Pro
        195                 200                 205

Glu Leu Trp Val Cys Pro Arg Val Pro Cys Pro Gly Gly Thr Cys His
        210                 215                 220

His Ser Gly Ser Ala Gln Val Val Cys Ser Ala Tyr Ser Glu Val Arg
225                 230                 235                 240

Leu Met Thr Asn Gly Ser Ser Gln Cys Glu Gly Gln Val Glu Met Asn
                245                 250                 255

Ile Ser Gly Gln Trp Arg Ala Leu Cys Ala Ser His Trp Ser Leu Ala
                260                 265                 270

Asn Ala Asn Val Ile Cys Arg Gln Leu Gly Cys Gly Val Ala Ile Ser
        275                 280                 285

Thr Pro Gly Gly Pro His Leu Val Glu Glu Gly Asp Gln Ile Leu Thr
        290                 295                 300

Ala Arg Phe His Cys Ser Gly Ala Glu Ser Phe Leu Trp Ser Cys Pro
305                 310                 315                 320

Val Thr Ala Leu Gly Gly Pro Asp Cys Ser His Gly Asn Thr Ala Ser
                325                 330                 335

Val Ile Cys Ser Gly Asn Gln Ile Gln Val Leu Pro Gln Cys Asn Asp
                340                 345                 350

Ser Val Ser Gln Pro Thr Gly Ser Ala Ala Ser Glu Asp Ser Ala Pro
        355                 360                 365

Tyr Cys Ser Asp Ser Arg Gln Leu Arg Leu Val Asp Gly Gly Gly Pro
        370                 375                 380

Cys Ala Gly Arg Val Glu Ile Leu Asp Gln Gly Ser Trp Gly Thr Ile
385                 390                 395                 400

Cys Asp Asp Gly Trp Asp Leu Asp Asp Ala Arg Val Val Cys Arg Gln
                405                 410                 415

Leu Gly Cys Gly Glu Ala Leu Asn Ala Thr Gly Ser Ala His Phe Gly
                420                 425                 430
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341

Ala Gly Ser Gly Pro Ile Trp Leu Asp Asn Leu Asn Cys Thr Gly Lys
     435   440   445

Glu Ser His Val Trp Arg Cys Pro Ser Arg Gly Trp Gly Gln His Asn
     450   455   460

Cys Arg His Lys Gln Asp Ala Gly Val Ile Cys Ser Glu Phe Leu Ala
465   470   475   480

Leu Arg Met Val Ser Glu Asp Gln Gln Cys Ala Gly Trp Leu Glu Val
            485   490   495

Phe Tyr Asn Gly Thr Trp Gly Ser Val Cys Arg Asn Pro Met Glu Asp
           500   505   510

Ile Thr Val Ser Thr Ile Cys Arg Gln Leu Gly Cys Gly Asp Ser Gly
         515   520   525

Thr Leu Asn Ser Ser Val Ala Leu Arg Glu Gly Phe Arg Pro Gln Trp
     530   535   540

Val Asp Arg Ile Gln Cys Arg Lys Thr Asp Thr Ser Leu Trp Gln Cys
545   550   555   560

Pro Ser Asp Pro Trp Asn Tyr Asn Ser Cys Ser Pro Lys Glu Glu Ala
           565   570   575

Tyr Ile Trp Cys Ala Asp Ser Arg Gln Ile Arg Leu Val Asp Gly Gly
         580   585   590

Gly Arg Cys Ser Gly Arg Val Glu Ile Leu Asp Gln Gly Ser Trp Gly
     595   600   605

Thr Ile Cys Asp Asp Arg Trp Asp Leu Asp Asp Ala Arg Val Val Cys
     610   615   620

Lys Gln Leu Gly Cys Gly Glu Ala Leu Asp Ala Thr Val Ser Ser Phe
625   630   635   640

Phe Gly Thr Gly Ser Gly Pro Ile Trp Leu Asp Glu Val Asn Cys Arg
         645   650   655

Gly Glu Glu Ser Gln Val Trp Arg Cys Pro Ser Trp Gly Trp Arg Gln
         660   665   670

His Asn Cys Asn His Gln Glu Asp Ala Gly Val Ile Cys Ser Gly Phe
     675   680   685

Val Arg Leu Ala Gly Gly Asp Gly Pro Cys Ser Gly Arg Val Glu Val
    690   695   700

His Ser Gly Glu Ala Trp Thr Pro Val Ser Asp Gly Asn Phe Thr Leu
705   710   715   720

Pro Thr Ala Gln Val Ile Cys Ala Glu Leu Gly Cys Gly Lys Ala Val
                725   730   735

Ser Val Leu Gly His Met Pro Phe Arg Glu Ser Asp Gly Gln Val Trp
                740   745   750

Ala Glu Glu Phe Arg Cys Asp Gly Gly Glu Pro Glu Leu Trp Ser Cys
            755   760   765

Pro Arg Val Pro Cys Pro Gly Gly Thr Cys Leu His Ser Gly Ala Ala
    770   775   780

Gln Val Val Cys Ser Val Tyr Thr Glu Val Gln Leu Met Lys Asn Gly
785   790   795   800

Thr Ser Gln Cys Glu Gly Gln Val Glu Met Lys Ile Ser Gly Arg Trp
                805   810   815

Arg Ala Leu Cys Ala Ser His Trp Ser Leu Ala Asn Ala Asn Val Val
            820   825   830

Cys Arg Gln Leu Gly Cys Gly Val Ala Ile Ser Thr Pro Arg Gly Pro
            835   840   845

His Leu Val Glu Gly Gly Asp Gln Ile Ser Thr Ala Gln Phe His Cys
    850   855   860

Ser Gly Ala Glu Ser Phe Leu Trp Ser Cys Pro Val Thr Ala Leu Gly
865   870   875   880

Gly Pro Asp Cys Ser His Gly Asn Thr Ala Ser Val Ile Cys Ser Gly
                885   890   895

Asn His Thr Gln Val Leu Pro Gln Cys Asn Asp Phe Leu Ser Gln Pro
            900   905   910

Ala Gly Ser Ala Ala Ser Glu Glu Ser Ser Pro Tyr Cys Ser Asp Ser
            915   920   925

Arg Gln Leu Arg Leu Val Asp Gly Gly Gly Pro Cys Gly Gly Arg Val
    930   935   940

343

Glu Ile Leu Asp Gln Gly Ser Trp Gly Thr Ile Cys Asp Asp Asp Trp
945   950   955   960

Asp Leu Asp Asp Ala Arg Val Val Cys Arg Gln Leu Gly Cys Gly Glu
              965   970   975

Ala Leu Asn Ala Thr Gly Ser Ala His Phe Gly Ala Gly Ser Gly Pro
              980   985   990

Ile Trp Leu Asp Asp Leu Asn Cys Thr Gly Lys Glu Ser His Val Trp
              995   1000   1005

Arg Cys Pro Ser Arg Gly Trp Gly Arg His Asp Cys Arg His Lys Glu
      1010   1015   1020

Asp Ala Gly Val Ile Cys Ser Glu Phe Leu Ala Leu Arg Met Val Ser
1025   1030   1035   1040

Glu Asp Gln Gln Cys Ala Gly Trp Leu Glu Val Phe Tyr Asn Gly Thr
              1045   1050   1055

Trp Gly Ser Val Cys Arg Ser Pro Met Glu Asp Ile Thr Val Ser Val
              1060   1065   1070

Ile Cys Arg Gln Leu Gly Cys Gly Asp Ser Gly Ser Leu Asn Thr Ser
              1075   1080   1085

Val Gly Leu Arg Glu Gly Ser Arg Pro Arg Trp Val Asp Leu Ile Gln
      1090   1095   1100

Cys Arg Lys Met Asp Thr Ser Leu Trp Gln Cys Pro Ser Gly Pro Trp
1105   1110   1115   1120

Lys Tyr Ser Ser Cys Ser Pro Lys Glu Glu Ala Tyr Ile Ser Cys Glu
              1125   1130   1135

Gly Arg Arg Pro Lys Ser Cys Pro Thr Ala Ala Ala Cys Thr Asp Arg
              1140   1145   1150

Glu Lys Leu Arg Leu Arg Gly Gly Asp Ser Glu Cys Ser Gly Arg Val
      1155   1160   1165

Glu Val Trp His Asn Gly Ser Trp Gly Thr Val Cys Asp Asp Ser Trp
      1170   1175   1180

Ser Leu Ala Glu Ala Glu Val Val Cys Gln Gln Leu Gly Cys Gly Gln
1185   1190   1195   1200

344

Ala Leu Glu Ala Val Arg Ser Ala Ala Phe Gly Pro Gly Asn Gly Ser
          1205   1210   1215

Ile Trp Leu Asp Glu Val Gln Cys Gly Gly Arg Glu Ser Ser Leu Trp
       1220   1225   1230

Asp Cys Val Ala Glu Pro Trp Gly Gln Ser Asp Cys Lys His Glu Glu
        1235   1240   1245

Asp Ala Gly Val Arg Cys Ser Gly Val Arg Thr Thr Leu Pro Thr Thr
      1250   1255   1260

Thr Ala Gly Thr Arg Thr Thr Ser Asn Ser Leu Pro Gly Ile Phe Ser
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Leu Pro Gly Val Leu Cys Leu Ile Leu Gly Ser Leu Leu Phe Leu Val
        1285   1290   1295

Leu Val Ile Leu Val Thr Gln Leu Leu Arg Trp Arg Ala Glu Arg Arg
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Ala Leu Ser Ser Tyr Glu Asp Ala Leu Ala Glu Ala Val Tyr Glu Glu
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Leu Asp Tyr Leu Leu Thr Gln Lys Glu Gly Leu Gly Ser Pro Asp Gln
      1330   1335   1340

Met Thr Asp Val Pro Asp Glu Asn Tyr Asp Asp Ala Glu Glu Val Pro
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Val Pro Gly Thr Pro Ser Pro Ser Gln Gly Asn Glu Glu Glu Val Pro
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Pro Glu Lys Glu Asp Gly Val Arg Ser Ser Gln Thr Gly Ser Phe Leu
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Asn Phe Ser Arg Glu Ala Ala Asn Pro Gly Glu Gly Glu Glu Ser Phe
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Trp Leu Leu Gln Gly Lys Lys Gly Asp Ala Gly Tyr Asp Asp Val Glu
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Leu Ser Ala Leu Gly Thr Ser Pro Val Thr Phe Ser
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346

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<220>
<223> One or both of residues 4 and 5 can be present;
      when present, each of residues 4 and 5 is any
      amino acid residue

<220>
<223> Residue 7 is any amino acid residue

<220>
<223> Residue 10 is N or H

<220>
<223> Residue 11 is any amino acid residue

<400> 450
Xaa Xaa Xaa Xaa Xaa Asp Xaa Asn Asp Xaa Xaa Pro
 1   5   10

<210> 451
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Domain
      Consensus Sequence

<220>
<223> Residue 1 is L, I, A, or T

<220>
<223> Each of residues is any amino acid residue

<220>
<223> One or both of residues 6 and 7 can be present;
      when present, each of residues 6 and 7 is any
      amino acid residue

<220>
<223> Residue 8 is P or E

<220>
<223> Each of residues 9 and 10 is any amino acid
      residue

<220>

<223> Residue 11 is L, I, V, M, F, or Y

<220>
<223> Residue 12 is D, E, N, Q, or S

<220>
<223> Residue 13 is S, T, or A

<220>
<223> Residue 14 is A or V

<220>
<223> Residue 15 is L, I, V, M, F, or Y

<400> 451
Xaa Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1   5   10   15

<210> 452
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Domain
      Consensus Sequence

<220>
<223> Residue 1 is G, S, T, A, L, I, V, or N

<220>
<223> Each of residues 2 and 3 is any amino acid residue

<220>
<223> Residue 6 is L, I, V, M, F, Y, or W

<220>
<223> Residue 7 is D, E, G, H, R, K, or P

<220>
<223> Residue 9 is any amino acid residue

<220>
<223> Residue 10 is L, I, V, M, F, Y, W, G, S, P, or Q

<400> 452
Xaa Xaa Xaa His Glu Xaa Xaa His Xaa Xaa

<210> 453
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Domain
       Consensus Sequence

<220>
<223> Residue 4 is G or N

<220>
<223> Residue 5 is any amino acid residue

<220>
<223> Residue 7 is D or R

<220>
<223> Residue 8 is L, I, V, S, A, P, K, or Q

<400> 453
Pro Arg Cys Xaa Xaa Pro Xaa Xaa
  1   5

<210> 454
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Domain
       Consensus Sequence

<220>
<223> Each of residues 1-12, 14-16, 18, 27, and 29-37 is
       any amino acid residue

<220>
<223> Residue 26 is D, E, or N

<220>
<223> Residue 28 is L, I, V, M, F, or Y

<220>
<223> Residue 38 is F, Y, or W

<400> 454
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Glu Xaa Xaa Xaa
 1   5   10   15

Glu Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa
        35

<210> 455
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Domain
      Consensus Sequence

<220>
<223> Residue 1 is F or Y

<220>
<223> Residue 6 is D, N, or R

<400> 455
Xaa Cys Arg Asn Pro Xaa
 1   5

<210> 456
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Domain
      Consensus Sequence

<220>
<223> Each of residues 2-6, 8, 9, 11-16, 22-24, 26-33,
      and 35-37 is any amino acid residue

<220>

<223> Residue 25 is F, Y, or W

<400> 456
Gly Xaa Xaa Xaa Xaa Xaa Gly Xaa Xaa Glu Xaa Xaa Xaa Xaa Xaa Xaa
 1   5   10   15

Trp Gly Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            20   25   30

Xaa Cys Xaa Xaa Xaa Gly
        35

<210> 457
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Domain
      Consensus Sequence

<220>
<223> Each of residues 1-3, 5, 8-11, and 15-22 is any
      amino acid residue

<220>
<223> Residue 6 can be absent; when present, it is any
      amino acid residue

<220>
<223> Residue 13 can be absent; when present, it is any
      amino acid residue

<220>
<223> Residue 7 is E or Q

<220>
<223> Residue 12 is L, I, V, or M

<220>
<223> Residue 14 is E, Q, or K

<400> 457
Xaa Xaa Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1   5   10   15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro

<210> 458
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Leucine Zipper
      Region of TANGO 366

<400> 458
Leu Asp Leu Ser Gly Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu
 1   5   10   15

Leu His Leu Pro Ala Leu
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<210> 459
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Leucine Zipper
      Region of INTERCEPT 217

<400> 459
Leu Ser Cys Thr Gly Leu Gly Leu Gln Asp Val Pro Ala Glu Leu Pro
 1   5   10   15

Ala Ala Thr Ala Asp Leu
            20

<210> 460
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Leucine Zipper
      Region of TANGO 331

<400> 460
Leu Glu Ala Gln Glu Glu His Leu Glu Ala Trp Trp Leu Gln Leu Lys

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        1              5              10             15

    Ser Glu Tyr Pro Asp Leu
              20
```